

Word Processing for Writers • Managing Costs with a Spreadsheet  
92 Hardware and Software Reviews • Two New Macs: A First Look

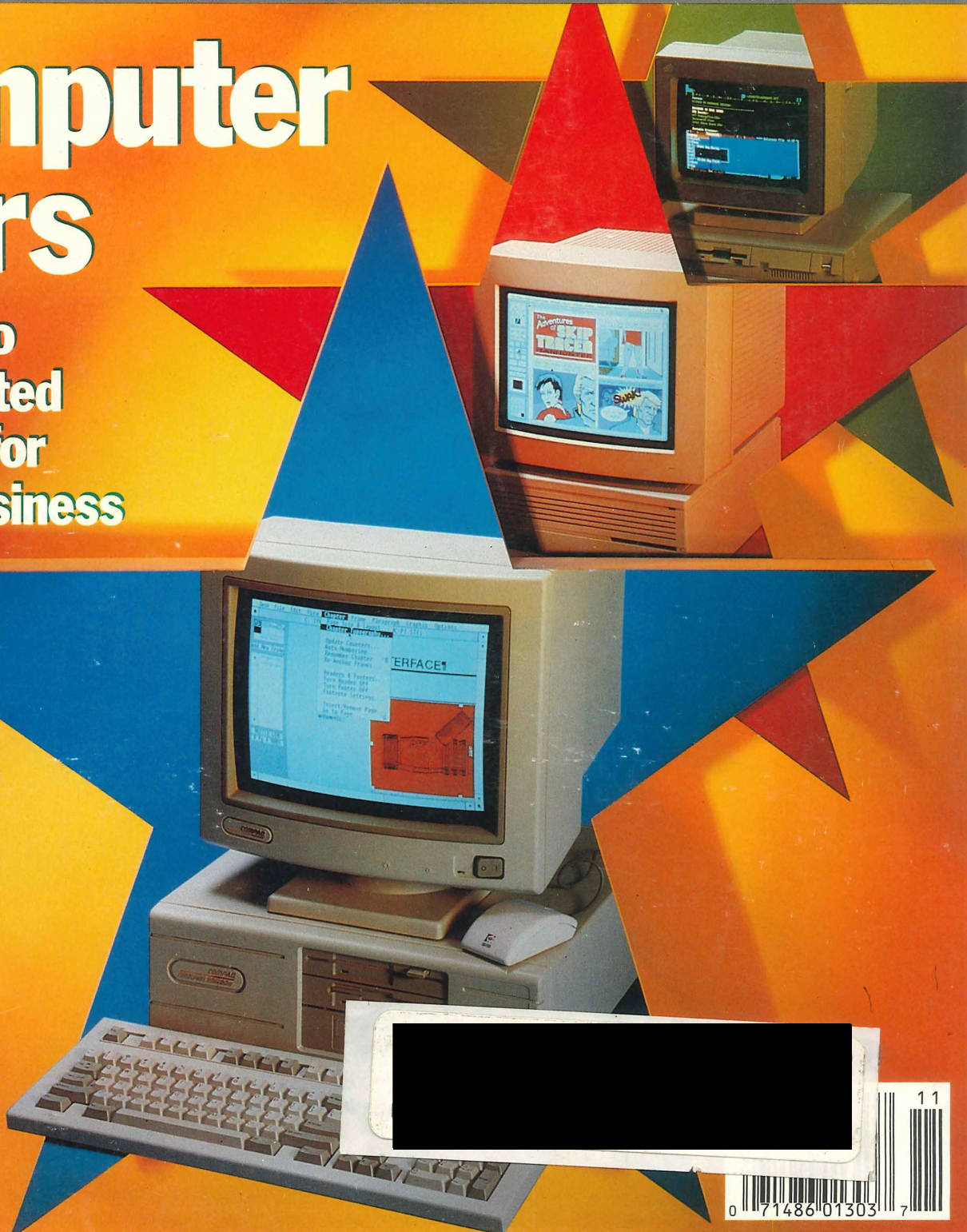
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# Home Office

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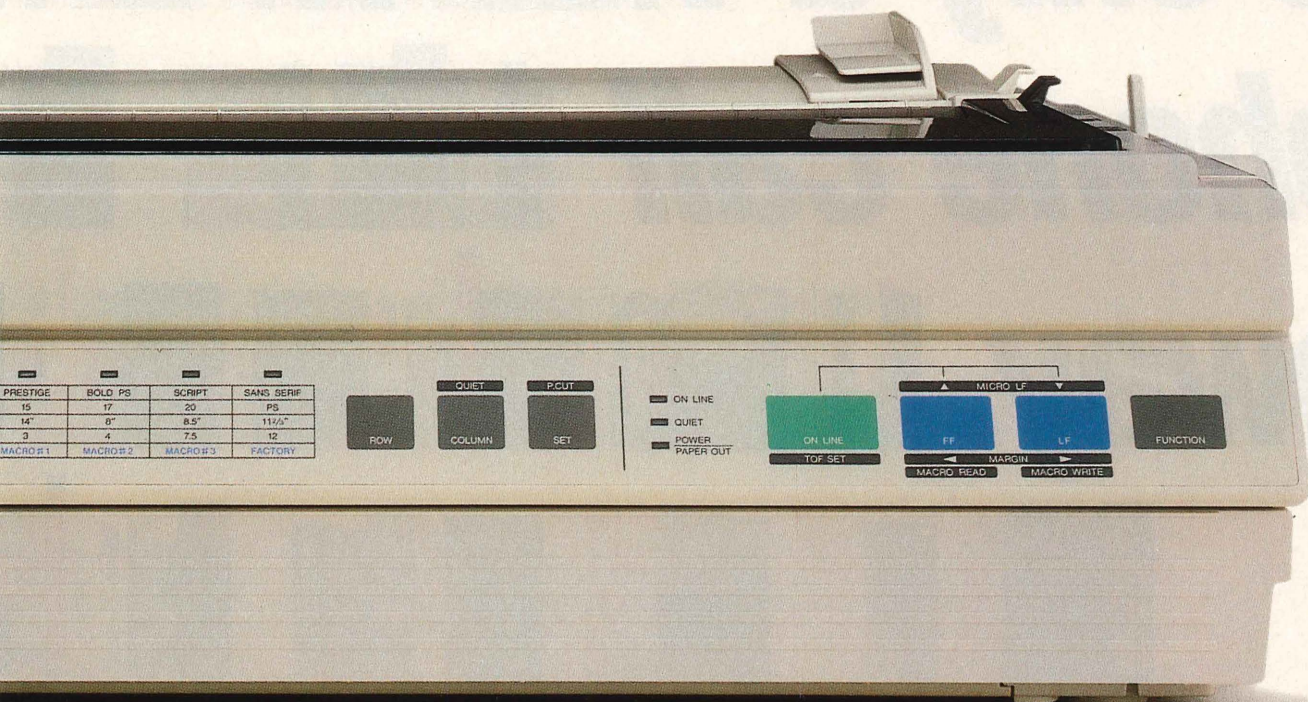
tions. You'll find the 1624's letter-quality mode as fast, or faster, than most popular 9 pins. Up to 63 LQ characters per second. With its 360 x 360 dpi bit-mapped graphics, you can incorporate special printed effects into your documents. Like company logos and line art.

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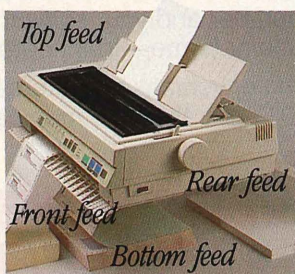


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Multiple paper paths mean you can put this printer exactly where you want it. There aren't many places in an office to conveniently put a printer.

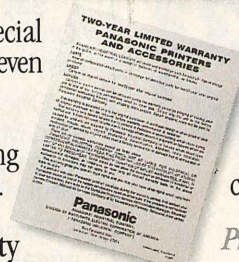
So the 1624 gives you a choice of 4 different paper paths: single sheets from the top, and fanfold from the front, bottom or rear.



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bottom or rear. A special 'Paper Park' feature even lets you feed single sheets from the top, without removing rear-fed fanfold.

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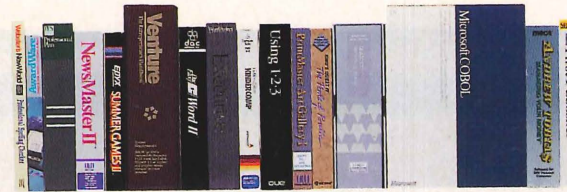
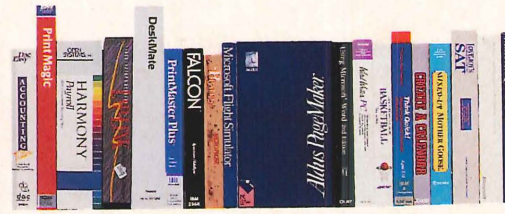
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FEATURES

COVER STORY

Buyer's Guide to Computer Stars

Page 51

How should you select just the right computer for your business? Do you need a 286-based workhorse, a 386-based super-system, or does your work call for a Mac? HOME-OFFICE COMPUTING's self-test will steer you to the best type of computer for your needs, and our roundup offers you a winners' circle of 23 three- and four-star systems to choose from.

BUSINESS MANAGEMENT

The Truth Behind Get-Rich-Quick Ads

Page 61

Ads in the Business Opportunities section of the newspaper promise to teach you how to make untold riches by tapping the capabilities of your computer. Many of these schemes are bona fide business opportunities, but how can you tell the sure things from the snake oil?

PROFILE

Audiotape Business Reels in Profits

Page 63

Pam and Terry Reutten's traveling tape show is on the road 12 months a year. They offer high-quality audiotape-duplication services at conferences and seminars all over the country. Despite hectic schedules and hidden costs, they've built a thriving home-based business.

SOFTWARE

Word Processing for Writers

Page 65

Different writing chores demand different word-processing features. Here, you'll learn which software packages are best suited for your writing, whether it's business, academic, journalistic, script, fiction, or technical writing. *Plus:* Recommended word processors for MS-DOS and Mac.

PRODUCTS

Hardware Reviews

Page 72

*Miniguide to Hand-Held Scanners:* Reviews and a side-by-side comparison of The Complete Half-Page Scanner/400, The Complete Hand Scanner/400, and ScanMan.

*Computer:* NEC's UltraLite. *Printer:* Star Micronics's XB-2410 Multi-Font. *Copier:* Sharp's Z-75. *Feature phone:* Sony SPP-110.

Office Essentials

Page 82

Information on the latest office products, services, and gadgets. *This month:* A portable overhead projector, a new fax-machine maintenance kit, a sleek optical mouse, custom-designed laptop cases, and more.

Software Reviews

Page 83

Long reviews of *Mirror III* and *Crosstalk Mk. 4*, two full-featured telecommunications packages, and *Freelance Plus*, the latest update of Lotus's popular slide-making software. Capsule reviews of *ContactMate*, *Pal Friday*, *Better Working Word Publisher*, and *Twist & Shout*.

FAMILY COMPUTING

Games for the Whole Gang

Page 92

Turn computer gaming into a group experience with these sports, board-game, trivia, and adventure packages designed for two or more players.

Software for Learning and Leisure

Page 96

Education: Long reviews of *Dinosaur Discovery Kit* and *Math Blaster Mystery*. Capsule reviews of *Atlas Explorer*, *Essential Grammar*, *The Family Software Library*, and *Monsters and Make Believe Plus*.

Entertainment: Long reviews of *Cosmic Osmo*, *Strategic Conquest Plus*, and *World Class Leader Board: Pro Golf Simulation*. Capsule reviews of *The Crack of Doom*, *Dark Side*, *Project Neptune*, and *Total Eclipse*.

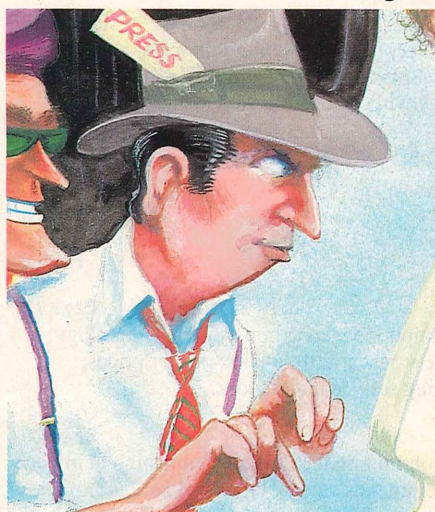
Entertainment News and Hints

Page 101

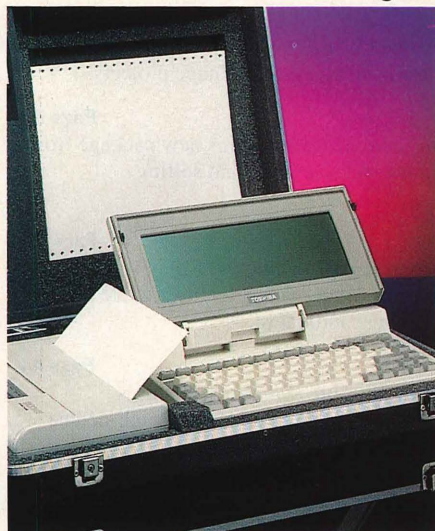
The inside scoop on on-line game playing, new sports titles from Data East, and Epyx's new software. *Plus:* Hints for *Advanced Dungeons and Dragons: The Pool of Radiance*, *BattleTech: The Crescent Hawk's Inception*, *Abrams Battle Tank*, and *Falcon*.



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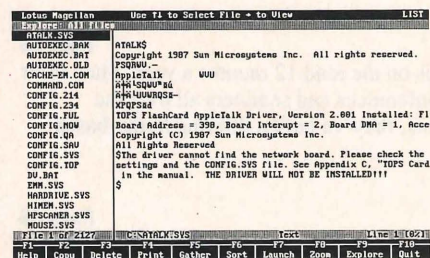


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## COLUMNS

### ShopTalk

Page 20

*Launching a Job-Placement Service.* Home-business consultant Joanne Pratt gives readers advice on starting a job-placement agency for ex-military personnel, piecing together a computer bulletin board, and expanding office-supply horizons.

### Clinic

Page 22

*Answers to Your Computing Questions.* HOME-OFFICE COMPUTING's technical staff answers readers' computing questions about fax-paper standards and adding color to Macs.

### Machine Specifics

Page 24

*Shrink Your MS-DOS Files; Create 3-D Pie Charts on Your Macintosh; Mix Apple II Graphics with Video.* Hardware and software news, opinions, quotes, and rumors reported by HOME-OFFICE COMPUTING's insider columnists on the IBM/MS-DOS, Macintosh, and Apple II universes.

### Working Smarter

Page 48

*Call-Waiting Etiquette.* The way you manage phone calls can turn clients on or off. Columnists Paul and Sarah Edwards offer some strategies for politely handling clients and call waiting.

### Workstyles

Page 116

*A Cellular State of Mind.* Nick Sullivan, our telecommuting senior editor, takes his work home . . . and on the train. Here, he observes the impact of laptops, cordless telephones, and other technology that lets you leave your desk without leaving your work behind.

## DEPARTMENTS

### Editor's Note

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### Up Front

Page 12

News, advice, tips, and a shot of humor on computing, using home-office technology, and running a home business. *This month:* Hot new Macs, falling laser-printer prices, awards for women entrepreneurs, credit-counseling services, and more.

### Desktop Publishing

Page 28

*Help! Part II.* In this installment of our series on finding the desktop-publishing help you need, contributing editor Steve Morgenstern recommends several superb video, audio, and disk-based tools that will help you design and produce better pages.

### Spreadsheets

Page 32

*Managing Costs with Excel.* Construction consultant Ron West uses straightforward, custom spreadsheets to help his clients track and estimate costs and manage projects.

### Databases

Page 36

*Master the Data on Your Hard-Disk Drive with Lotus Magellan.* This new package from Lotus helps you navigate your hard disk with its powerful searching and sorting capabilities.

### Business 101

Page 40

*Finding the Right Employee: Part II.* In the second part of HOME-OFFICE COMPUTING's two-part series on hiring for your home office, you'll learn valuable tips on reading résumés, screening by phone, and interviewing candidates.

### Telecomputing

Page 44

*The Knowledge Index: A Low-Cost, Easy-to-Use, On-Line Database.* Dialog's Knowledge Index provides on-line novices with a wealth of comprehensive, high-octane business information. Here's how to tap into this powerful database.

### Best-Selling Software

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### Home-Office Shopper/Classifieds

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### Advertiser Index

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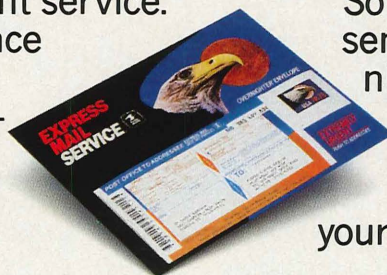
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From left: Bernadette Grey, Lance Paavola, Steven Chen, Ted Stevenson, and Marie Alvich.

Unlike most of you, I take an elevator to work every day. Five mornings a week, I walk into a loft full of chattering coworkers and noisy office equipment. I can only concentrate in 10-minute spurts, my office is doorless, and my boss (Editor-in-Chief Claudia Cohl, who is vacationing in Maine as I write this) has an office only 50 feet away from mine.

As counterproductive as my workplace may sound, I doubt I'd trade it for any one of your home offices. Without all the people who make all that noise, I wouldn't get anything done. Who would I turn to for support and assistance?

Ah, the luxury of having help just a holler away. When I run out of manila envelopes or number-two pencils, our editorial coordinator, Marie LoPinto, appears with a new stash. When I can't decide if I should use the word *insure* or *ensure*, I ask Lauren Leon, our copy editor. And, best of all, when I have trouble downloading a file or getting my printer to work properly, I call out to our tech department.

Without our technical experts Lance Paavola, Steven Chen, Ted Stevenson, and Marie Alvich, this office would be a ship without a sail. Who would have put our computerized typesetting operation in motion? Who would guide this office in our hardware and software buying decisions? Who would keep our computer lab afloat?

Most of you don't have the luxury of your own tech department. But you *do* get guidance from the same people who keep this office sailing smoothly. Not a story or review appears in the pages of HOME-OFFICE

COMPUTING without the input of a technical editor. And all of our hardware buyer's guides and reviews are directed by our in-house techies.

This technical guidance is one of HOME-OFFICE COMPUTING's most important missions: We provide you with sound hardware advice in every buyer's guide, every hardware review, every Clinic column. This month's "Buyer's Guide to Star Computers" (page 51) is a compilation of 23 of the best 286, 386, and Macintosh computers our technical department has uncovered. Also included in this guide is a six-question self-test to help you figure out which of these computers is best for your business, as well as a layman's guide to computer features.

Of course, technical support isn't HOME-OFFICE COMPUTING's only calling. We also show you how to get the most out of your software ("Word Processing for Writers" on page 65, for example), provide you with straightforward business advice ("The Truth Behind Get-Rich-Quick Ads" on page 61 and "Finding the Right Employee: Part II" on page 40), and give you a healthy dose of learning and leisure activities (see "Games for the Whole Gang" on page 92).

So as I call out to my coworkers for help, you can also benefit from them in peace and quiet as you read this and every issue of HOME-OFFICE COMPUTING.

*Bernadette Grey*

BERNADETTE GREY  
EXECUTIVE EDITOR



## BARTER BEATER

In the July ShopTalk, Joanne Pratt suggested bartering word-processing for legal services. ("Where There's a Will, There's a Way to Do It with Software," page 12).

I'm confused. Why should anyone barter? I thought money was created because bartering didn't work very well as a medium of exchange. Is an arrow worth one-half a chicken or two-thirds of a chicken?

And, if the object of the suggestion was to beat the tax man by entering the underground economy, shame on Pratt for advocating it. Tax laws call for all income to be reported, even when it comes in the form of services or products.

JEFFREY L. DENNING  
PRACTICE PERFORMANCE GROUP  
Long Beach, California

JOANNE PRATT REPLIES: *You are correct that exchanged services and products are taxable income. However, your observation that barter doesn't work as well as money as a medium of exchange is not true for everyone. I recommend bartering when neither party has cash available but both need each other's business services. Exchanging checks of equal value will keep the transaction on the books.*

## VOLLEY FOR SERVICE

I enjoyed Claudia Cohl's Editor's Note in the August issue ("I Thought This Was a Service Economy—So Where's the Service?" page 4). Good service is, indeed, hard to find; and your own company proves this point.

Your magazine offered a bonus to new subscribers: a booklet entitled *501 Great Ideas to Help You Run a Successful Home Office*. When I did not receive the booklet, I contacted your customer-service representatives. A few weeks later, I received a tattered, computer-coded postcard that recommended I contact my "agent" with any future inquiries. I never received the booklet.

I agree with Cohl: "I can't encourage poor service by accepting it," and I, too, "hope to find a company that better values its customers."

C. MARK WITT  
Rancho Cucamonga, California

EDITOR'S NOTE: *Typically, bonus items like 501 Great Ideas to Help You Run a Successful Home Office are given away in conjunction with special offers from outside subscription agencies representing our magazine. These bonuses, called circulation*

*premiums, are not offered directly by HOME-OFFICE COMPUTING to all new subscribers. Since these outside agents make their own offers, we must refer subscribers to the agency itself in the event of a problem. It is our responsibility, however, to intervene when an agency representing HOME-OFFICE COMPUTING is delivering unsatisfactory service.*

I read Claudia Cohl's Editor's Note in the August issue and I want to let your readers know that HOME-OFFICE COMPUTING provides just the kind of service that seems so hard to find these days.

On June 10, I wrote to your magazine concerning mistakes in my mailing label. A couple of weeks later, I received a phone call from your circulation director, Karen Williams. She told me the matter was being looked into and she would let me know the outcome. She called back two hours later, informing me she had contacted the mailing house. Canadian addresses had been causing it trouble (hey, they cause the Canadian Post Office trouble, too, so I can empathize), but it hoped the situation was now corrected.

I was very impressed with the promptness and courtesy with which my complaint was handled and even more impressed when Williams followed up with a letter indicat-

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ing that the address had been corrected.

It is refreshing to come across an organization that really provides good service, and I'm delighted to tell people about it.

VIVIENNE MONTAGUE  
MANUSCRIPTS PLUS  
Toronto, Ontario, Canada

I would like to respond to Claudia Cohl's Editor's Note in the August issue.

I can definitely relate to her frustration with the generally poor service of many businesses. Having been in a service position for the past 16 years, I feel qualified to respond as a service provider.

It seems too often, despite the dedication of the majority of service professionals, that most people do not even try to understand the limitations that reality imposes on us all. Too often we expect to purchase perfection for a buck. It's not reasonable or fair to expect service that is impossible.

I read somewhere that as products and services get better and better, we come to expect more and more. This is a reasonable expectation, but please, we must learn to accept the fact that we live in an imperfect world. Sometimes these expectations are enough to drive any good service person to early retirement.

RON PETERSON  
Bisbee, Arizona

#### IN GOOD COMPANY

I read with interest and agree with Claudia Cohl's Editor's Note from the July 1989 issue ("Signature: A Matter of Pride and Why It Works," page 6). Her statements about the anonymity of giant corporations and employees' ignorance of what their employers really do hit home.

But, does the mailroom clerk at your office know who the president of Scholastic is? If he or she ever ran into Richard Robinson, could the mailroom clerk say, "He's the head of the company I work for?" Does this person know all the ventures that Scholastic participates in?

I read your magazine so that when I become an independent entrepreneur I will have more knowledge and education. Until that time, if the answers to the questions I put to you are yes, please send me an application for a job in your down-home corporation.

LARRY LESTER  
Encino, California

JOHNNY FERNANDEZ, OUR MAILROOM CLERK, REPLIES: *I am the person in charge of mail distribution for HOME-OFFICE COMPUTING, for several other Scholastic publications, and for Scholastic's teleproduction wing. Knowing the people I work for, including President Dick Robinson and Edi-*

*tor-in-Chief Claudia Cohl, and the types of projects my company is involved in is a big part of my job. It's good to know that here at Scholastic we are treated equally, and I'm proud to work for such a company.*

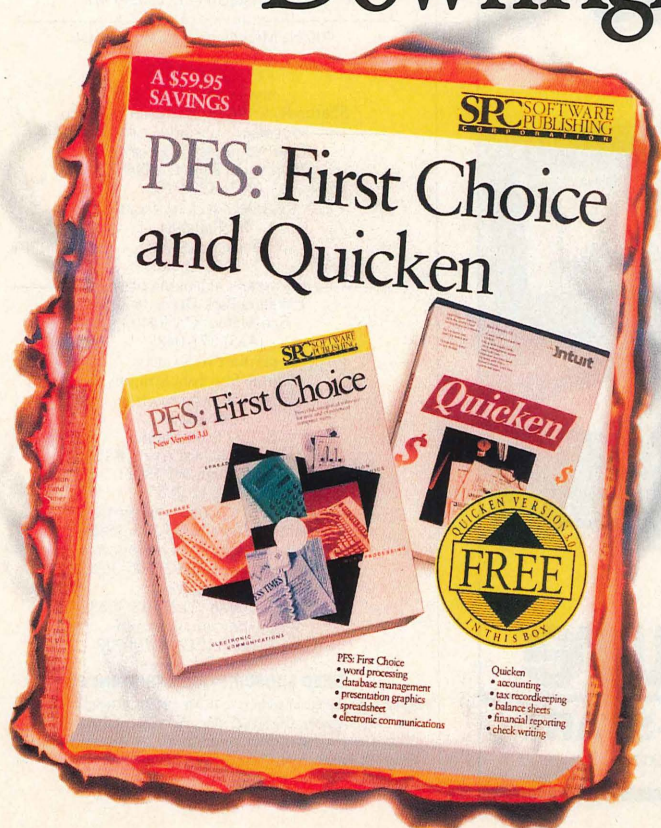
#### CORRECTION

In HOME-OFFICE COMPUTING's August cover story ("The New Breed of 286 Computers," page 41), we erroneously reported that customer support for the Commodore PC40-III was available through an "extensive network of authorized repair facilities." Telephone customer support is, in fact, provided through authorized Commodore dealers. Commodore users in need of repair work should seek an authorized repair facility.

On page 30 of the September issue ("101 Home Business Success Stories") the gentleman at the bottom left of the page was incorrectly identified as courseware developer Michael Greer. The photograph is actually of Don Hauptmann, a home-based copywriter, whose profile is featured directly above the photograph. ■

HOME-OFFICE COMPUTING looks forward to letters from all its readers. Please direct your correspondence to Letters to the Editor, HOME-OFFICE COMPUTING, 730 Broadway, New York, NY 10003.

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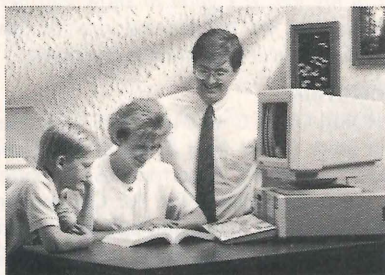
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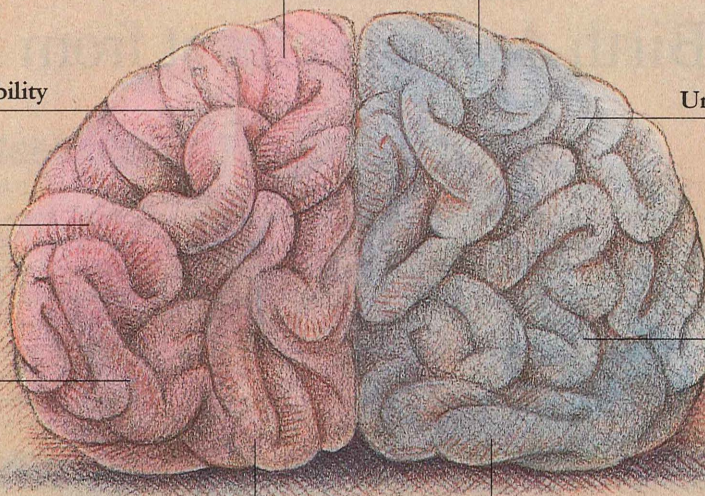
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CIRCLE READER SERVICE 26



EDITED BY KAREN KANE

# Double Birth Announcement from Apple

## Mac Gets Mini

You can stop holding your breath. The wait is over. The stork has delivered its package and is now gliding home. After what seems like an eternity, the Apple Macintosh Portable has finally arrived. It is the first in a whole new Macintosh family line. All you on-the-move marketing demons, mobile tax auditors, and roving ad salesmen who've been suffering from the lack of a take-it-with-you Mac, your life is about to change.

In case you were in doubt, this baby is all Mac. That's the Cupertino concept: Total Mac functionality in a portable package—with no compromises. Quite an undertaking in a world where *portable* usually means *compromise*. But it's a big baby and a heavy baby (Apple's priorities were function first, portability second). And it's expensive.

So, what does the newcomer look like? Its sleek, rugged, wedge-shaped Apple-beige case is bigger than a notebook but smaller than a briefcase. And once it's up and running, the machine has plenty of pizzazz. The Portable runs on the same CPU chip as the desk-bound Mac SE—but twice as fast! It comes with 1MB of RAM (expandable to 2MB), which means it will handle most software, but it won't be running MultiFinder until higher-density RAM chips are available.

The folks at Apple really didn't want users of the Portable to worry about running out of juice, so they lavished plenty of attention on saving power, extracting the last possible bit (or byte) of performance from the system's lead-acid battery pack. The packs themselves are designed to last from eight to ten hours, and they're interchangeable, so if ten hours isn't long enough, you can carry a spare. (Unfortunately, lead-acid batteries are also heavy; we'll get back to that bad news.)

In addition to the power-saving CPU and

RAM chips (pretty standard in traveling computers), the Portable has one unique power-saving feature: a specially designed chip that monitors use of the various subsystems, putting inactive ones into a temporary "rest" mode or, when appropriate, putting the whole computer "to sleep." The system is reawakened by the touch of a key, and, needless to say, memory remains intact during rest or sleep.

### CORE COMPONENTS

Also making its debut with the Portable is a fast, beautiful Active Matrix liquid-crystal screen, a brand new LCD technology that uses a separate transistor for each one of the 256,000 (640 by 400) pixels. Contrast is excellent (Apple claims it's five times better than conventional LCDs). Viewing angle is much less critical than with standard LCD displays. The screen lacks backlighting, however (a feature that MS-DOS laptop users have come to expect), so it's not readable in the dark.

A full-size (63-key) Mac keyboard is part of the package. Right alongside the keyboard is a track-ball module, which replaces the mouse. For big numbers users, the track-ball module can be removed and replaced with an optional numeric keypad. One nice feature of the modular design (especially for left-handers) is that the track ball (or keypad) can be moved to either side of the keyboard.

Standard storage is one Superdrive (a 1.44 MB 3.5-inch floppy) built into the right-hand side of the case. Included as part of the concept (but not as part of the basic package) is a fast-access (28 millisecond), shock-mounted 40MB hard disk. Input and output are handled through nine ports on the back. There's room for all the usual Macintosh connections plus exotics like stereo sound and an AC adapter, which allows you to hook up virtually anywhere in the world.

Swaddled in an indestructible-looking polycarbonate carrying case, it all adds up to quite a hefty package—in features, poundage, and price. How heavy is it? With battery pack (but without the hard disk), the little one weighs in at 13.75 pounds. But who wants to be without a hard disk (two more pounds)? This is about 30 percent heavier than a similarly equipped MS-DOS laptop. A desktop Mac SE weighs only 21 pounds with a hard-disk drive.

And who, exactly, will shell out between \$6,500 and \$7,000 (with hard-disk drive) to bring this baby home? Almost anyone with a have-Mac-will-travel lifestyle.

—EDWARD P. STEVENSON

## Hottest Mac Yet

The second birth announcement from Cupertino bears the name Mac IIci: son of IIcx. Based on a 25-MHz version of the 32-bit 68030 chip, the Mac IIci is simply the hottest computer ever to come out of the Apple barrel.

How hot is it? It isn't simply, as product manager Fred Benz puts it, "that we've speeded up the clock. We've implemented a number of important design improvements that combine to boast a 40 to 50 percent performance increase over the IIcx." With an optional cache memory card (currently being developed), an additional 10 to 20 percent improvement in overall system performance may be possible. All of this will be good news for users of large spread-



sheets, huge databases, and sophisticated graphics applications.

One of the IIci's major innovations is its built-in video support, which can drive a variety of Apple monitors of varying resolutions—including the full-page Macintosh Portrait Display. Performance is dazzlingly fast. Adding a video card in one of the three NuBus expansion slots may enhance the display even more.

The Mac IIci also boasts a new 512K ROM that enables many new goodies. With currently available RAM chips, the IIci will accommodate a maximum of 8MB on the motherboard. With four-megabit chips, this will rise to 32MB.

In other respects, the Mac IIci takes after its parent, the IIcx. It has the same compact design and small footprint. It can be used in either a horizontal or vertical position. It comes without monitor, keyboard, or hard-disk drive. You choose the ones you want—all at extra cost. Speaking of cost, all that Apple spokespeople would say was that the Mac IIci would be "premium priced." Don't be surprised if a fully configured machine approaches the \$10,000 mark.

—EDWARD P. STEVENSON





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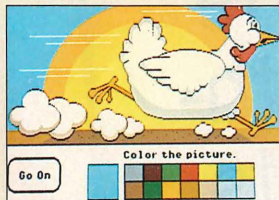
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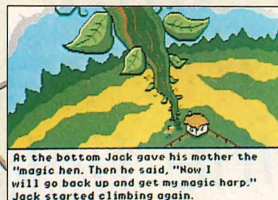
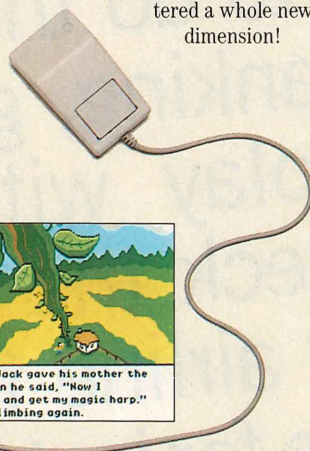
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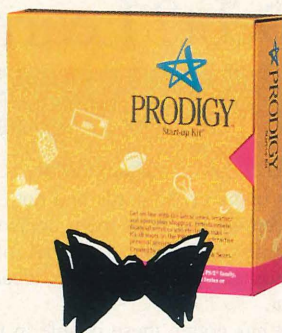


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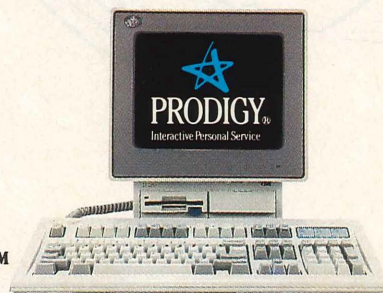
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CIRCLE READER SERVICE 64



# Swimming in Debt? Learn a New Stroke

If your freestyle financial management fails to keep you afloat, a credit counselor may be able to guide you out of deep water. Nonprofit credit-counseling agencies across the country are designed to help people with serious debt problems. The National Foundation of Consumer Credit ([301] 589-5600) can tell you the name of a credit-counseling service near you.

According to Carl F. Lindquist, president of the Consumer Credit Counselors of Orange County, in California, most of the organization's clients have two common prob-



lems: too many credit cards and not enough record keeping. To help them control their debt, the agency takes away all of their credit cards and establishes a reduced payment plan.

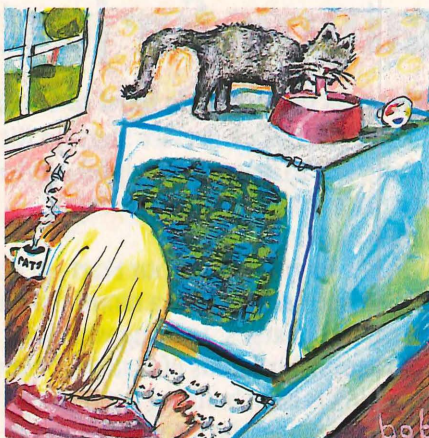
"What has gotten these people in trouble is credit cards," Lindquist says. "Credit cards have low minimum payments and high interest rates, so they liquidate slowly."

Without a budget or any kind of financial record keeping, debts can run out of control. "Very few people have a budget," he says. "When they fill out one of our applications, they can see why they're in trouble." The Consumer Credit Counselors' application includes an income and expense sheet and a list of liabilities—files that most people don't keep.

The most sensible rule for managing money is simple common sense, says Lindquist. "Don't take on more debt than you can handle."—MATTHEW STERN

## Working from Home Is Purrfect

Nine-to-fivers in New York City are *peturbed* at the American Society for the Prevention of Cruelty to Animals (ASPCA) because the organization will not place young puppies and kittens in homes that are vacant for more than five hours a day. It claims that the little ones need frequent care and feeding that working people can't provide. So add pet ownership to your growing list of reasons to work from home.



## Special Pursuits Resources for the Hearing and Speech Impaired

An estimated 2 million people in the United States cannot speak, and about 21 million have a hearing problem in one or both ears. But many individuals who could benefit from a visit to the audiologist or speech pathologist do not seek help. With 57,000 trained members, the American Speech-Language-Hearing Association (ASHA) is the vanguard organization for people with hearing or speech disabilities. But, in addition to medical recommendations, individuals can also get career advice and help selecting computer hardware and software specifically designed for people with hearing and speech disabilities.

ASHA puts out a variety of informative pamphlets and booklets concerning every type of disability affecting speech, language, and hearing. Sample titles are "ASHA Answers Questions About Assistive Listening Devices"; "Recognizing Communication Disorders"; and "Answers to Questions About Adult Aphasia." There are also five booklets about computer-assisted communication written for different audiences, such as health-care professionals, administrators, educators, and the general public. The booklets and pamphlets are free. The organization also publishes several journals and reports, an annual directory, a guide to professional services, a review of governmental affairs, and career and public information literature. Write to ASHA at 10801 Rockville Pike, Rockville, MD 20852. Better yet, call the toll-free Helpline: (800) 638-8255 or, in a few states, (301) 897-8682 (both are voice or TDD).

—SHIRLEY CAMPER SOMAN

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FROM THE OMAHA  
OFFICE, SIR.

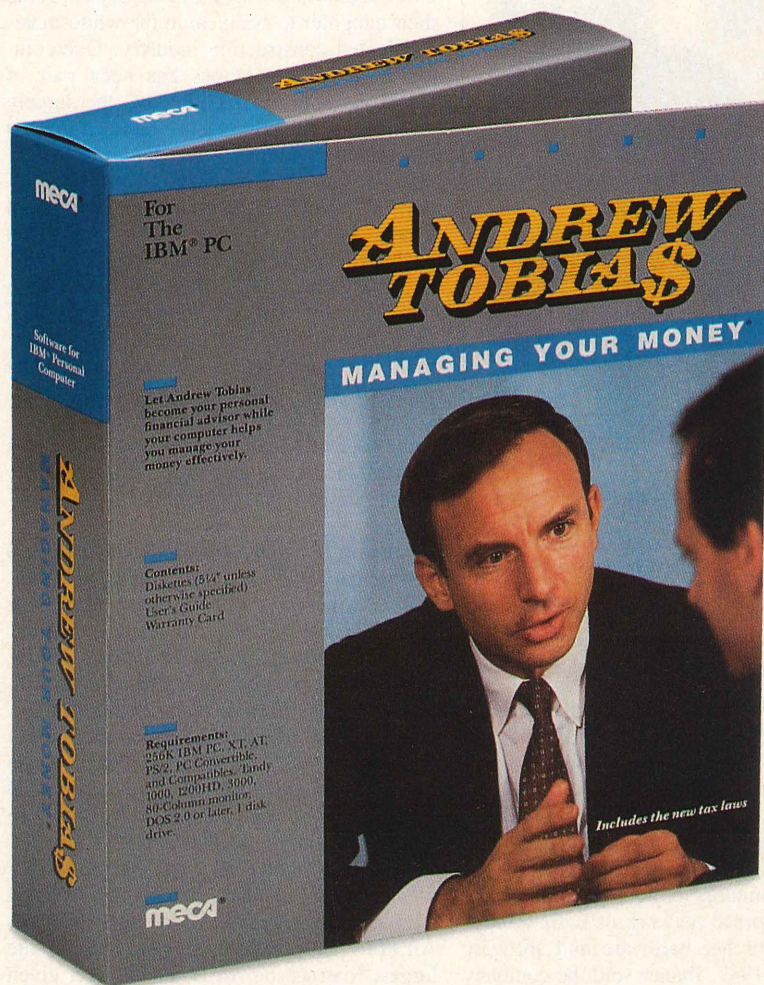
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Now in its third year, Avon's Women of Enterprise Awards pays tribute to the pioneering spirit of America's millions of self-employed women. Conceived by Avon, in conjunction with the Small Business Administration, the award honors outstanding self-employed women who have endured in the face of adversity—and triumphed. Winners, selected by a council of noted business and community leaders, receive a crystal trophy plus \$1,000 in cash. Says Gail Blanke, Avon's vice president of public affairs, "The Women of Enterprise Award salutes those women who've chosen entrepreneurship as the surest means of determining their own success."

If you think that you or someone you know qualifies as a Woman of Enterprise and would like to apply for the prestigious award, send a self-addressed, stamped (\$.75) business envelope to Women of Enterprise Awards, Avon Products, Inc., 9 W. 57th St., New York, NY 10019. Completed applications must be received by January 15, 1990.

Two famous women of enterprise, Beverly Sills and Marlo Thomas, helped honor the following women at the 1989 awards ceremony at the Waldorf-Astoria Hotel in New York City this past summer:

**Charlotte B. Brannstorm, 51, president of Greater Flint Temporaries, Inc.** Brannstorm opened her temporary employment agency when a former boss turned down her request for a \$25-a-week raise. One of 10 children born to alcoholic parents, she dropped out of high school and married early to escape poverty. Years later, a divorce and the accidental death of her oldest daughter devastat-



*This year's Women of Enterprise Award winners (left to right from top): Charlotte B. Brannstorm, Maria Elena Ibanez, Yvonne D. Hoovestal, Juliet C. Welker, and Carolyn A. Stradley.*

ed her but didn't deter her from pursuing her goals. Today her company operates nationally; its revenues approach \$2 million.

**Maria Elena Ibanez, 35, cofounder of International Micro Systems, Inc.** At 15, Ibanez, of Barranquilla, Colombia, was the only programmer in town. In high school, large corporations called on her to develop programs for them. After tackling the language barrier and completing her college education in Miami, she cofounded her company and developed a widespread network of Latin American buyers for her hardware and software packages. In 1987, Ibanez sold the company to an industry giant for several million dollars.

**Yvonne D. Hoovestal, 47, president of Greenway Enterprises, Inc.** Hoovestal's father was chief of police for Montana's Gros Ventre Native American tribe; her mother was a dietitian on the reservation. Although they encouraged hard work, they hardly expected their daughter to compete in the white-male-dominated construction industry. Overcoming negative stereotypes has been part of Hoovestal's life work. Today, the largely self-taught entrepreneur has handled dozens of projects in five states.

**Juliet C. Welker, 39, president of Welker Real Estate, Inc.** Fifteen years ago, the odds of a black woman landing a job selling real estate in Philadelphia's Art Museum area were virtually nonexistent. Armed with a master's degree, she was branded "not qualified" for a real-estate job even though the want ad had read "no experience necessary." Nonetheless, in 1981, Welker became sole owner of a realty company and a pioneer in the development of a culturally diverse downtown community.

**Carolyn A. Stradley, 43, president of C & S Paving, Inc.** Born into the poverty of Appalachia, Stradley's first survival test came when she was 11: Her mother died and her alcoholic father abandoned the family. Stradley and her siblings survived cold winters on wild berries and rabbits they caught. Married at 16, she worked for a construction company to help support her baby. When her husband died in 1973, she continued working, and three years later struck out on her own. Although banks refused to lend her money, she started C & S Paving at her kitchen table. Today, her billings exceed \$2.5 million; clients have included Dobbins Air Force Base, which awarded Stradley the largest contract the Air Force has ever given to a woman-owned business.

—BARBARA STEIN

## Laser Printer Prices Come Down

When it comes to printer quality, you get what you pay for. And now you can get it for less because laser printer prices are finally coming down.

Toshiba, Epson, and Hewlett-Packard recently introduced laser printers for under \$2,000. Hewlett-Packard's LaserJet IIP retails for \$1,495, but street prices should be around \$1,000. HP's new laser printer prints at a speed of 4 pages per minute (ppm), which is slower than the HP LaserJet

Series II (8 ppm). But the speed difference isn't significant for documents up to 10 pages, and you'll get the same high-quality print. The Toshiba PageLaser6 has a print speed of 6 ppm, and the suggested retail price is \$1,899. Epson's 6 ppm EPL-6000 should cost about the same. Both are HP-compatible.

So, go ahead, give your business the sharp image it deserves.

—STEVEN C.M. CHEN



*Hewlett-Packard's LaserJet IIP is the first laser printer available for around \$1,000.*



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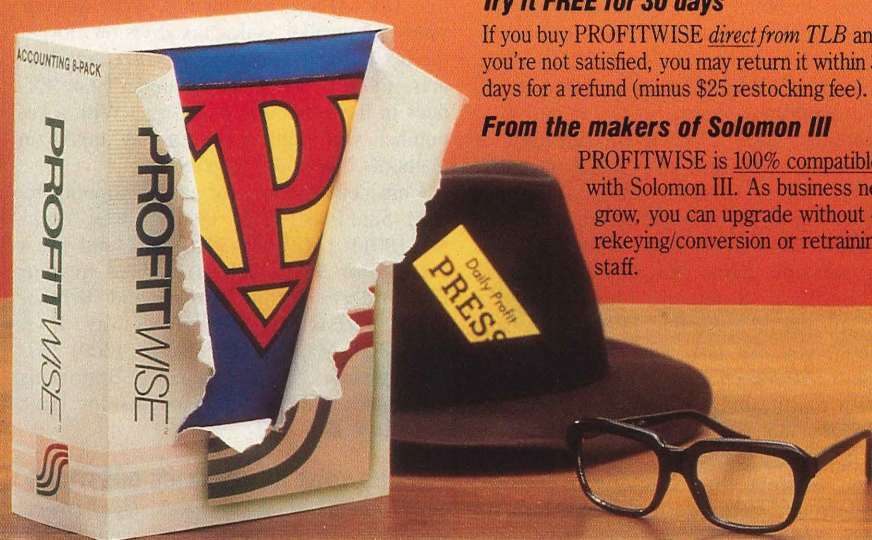
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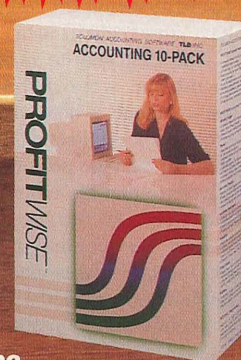
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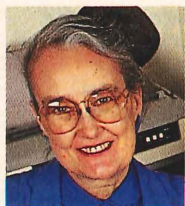
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# Launching a Job-Placement Service for Former Military Personnel

BY JOANNE PRATT



Five years ago, who would have thought that the former CEO of a prestigious specialty store would set up a new consulting business at home? Three telephone lines, a facsimile machine, an answering machine, and a Macintosh equip him to serve corporate clients.

Who would have guessed that the vice president of a major public-television station could produce films from a home office located near a remote mountain vineyard? Her home office has built-in views that would inspire anyone to stop commuting.

The telephone, the computer, and the airplane have made it possible to work anywhere we please. What's new is that so many of us choose to work from home.

**Q. I recently left the military, and I have yet to find any placement agencies that specialize in finding civilian careers for people who've served in the military. I would like to provide such a service. Do you know of any existing agencies like this? What is the best way to market this service from a home office?**

KELVIN WOMACK  
Newport, Rhode Island

**A.** All state employment agencies have a representative on staff to offer counseling, help write résumés, and set up interviews. If there are private agencies targeting former military personnel, they should do more publicity because I couldn't locate any. You have an excellent idea.

The best way to market your business is to use the word *military* in your business name. Place a box ad describing your service in the yellow pages. To compete with the free service provided by state agencies, advertise that the employer pays all fees—if it's true. Try to get articles about your unique service into newspapers circulated on military bases and place ads in these publications as well.

To find potential employers, seek defense

industry contractors, who reportedly like to hire ex-military personnel. Finally, set up a home office that looks professional, but is comfortable enough to put clients at ease.

**Q. I am considering selling information from a database. Market research indicates that there is a niche for this kind of business. I believe that information can be distributed more quickly and inexpensively on a bulletin-board system (BBS) than by mail. What kind of equipment and software would I need to enter this business? If I used more than one modem, would the computer require a multitasking operating system? How many modems can be connected to a single BBS?**

PAUL TEETER  
Chesterfield, Missouri

**A.** Mark Robbins, an experienced bulletin-board operator, recommends a "beginner" system of an IBM XT- or AT-compatible computer, a 20MB or larger hard-disk drive, and a 2400-bps modem.

Robbins says, "You'd be surprised at how many calls, and how much business, you can receive over a single-line BBS if you have a phone number assigned to your computer 24 hours a day. Computers running part-time BBSs generally do not have the activity or success of 24-hour boards."

If you find that a single 24-hour line isn't enough, you can later add more lines and modems. If you choose to do so, you won't need a multitasking operating system. Just make sure that your BBS software can support multiple lines.

You can opt for menu-driven or command-driven software for your bulletin board. (Most BBS software has both modes.) If your clients are bulletin-board novices, buy a menu-driven software package such as *Opus*, *PCboard*, *RBBS*, *Phoenix*, *GT*, or *TBBS*. Command-driven BBS software does not offer instructions unless they're requested, so it's quicker for experienced users. Robbins recommends *Citadel*, a free program you can get from him.

There is much more to learn about run-

ning a bulletin board. Robbins urges you to contact him via BBS ([214] 296-8766), voice-mail computer ([214] 296-8760), or mail (NTouchWare, P.O. Box 380476, Duncanville, TX 75138).

**Q. I am in the early stages of a home-based business. I use computer graphics to create greeting cards, stationery, and similar products. I'm having trouble finding supplies—colored paper, special-size envelopes, and other graphics materials. I need larger quantities than local retail stores keep in stock.**

MARY HALFHILL  
Columbia, Maryland

**A.** You may find the materials you need at a large discount office-supply store, if not in Columbia, then in Baltimore or Washington, D.C. If you buy locally, write to your state comptroller, sales tax division, to get the tax number you need to sell your products. (You'll find a listing under State Offices in the telephone directory.) With a tax number you don't have to pay taxes on materials that you will resell.

Consider shopping for artists' supplies by mail. Sam Flax (39 W. 19th St., New York, NY 10011; [212] 626-3010) will send you a catalog for \$5 (which is credited to your first order). Arthur Brown and Brother (5875 Queens Midtown Expressway, P.O. Box 7820, Maspeth, NY 11378; [800] 237-0619) charges \$3 for its catalog. Both firms sell at retail but offer discounts for large quantities. ■

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Send your questions on taxes, legal issues, developing a business plan, capitalizing, marketing and public relations, or any other business-related issues to Joanne H. Pratt, c/o ShopTalk, HOME-OFFICE COMPUTING, 730 Broadway, New York, NY 10003. Name, address, and telephone number must be included on all correspondence. Pratt is a nationally known researcher, consultant, and speaker on the subject of home business.





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# In Search Of a Fax-Paper Standard

BY STEVEN C.M. CHEN AND MICHAEL D. ESPINDLE

## PAPER CHASE

**Q:** I recently purchased a TandyFax 1000 fax machine. At the time, I remember asking the store manager if I could use paper other than the manufacturer's for the unit. His reply: "Sure, why not?"

I cannot find TandyFax on the model-compatibility chart where I buy office supplies, and Radio Shack's official advice is to buy its own paper, sold only at Radio Shack and for considerably more than the fax paper at my local office-supply store.

I am happy with my purchase—the TandyFax 1000 is a good machine—but I'm annoyed at the lack of information about fax paper. What kind of paper can I use in my TandyFax?

JANET SCHWARTZ

Medford Lakes, New Jersey

**A:** Although there is a well-established standard for fax transmission, there is no stan-

dard for fax, or thermal, paper. Since no standard exists, the manufacturer must tell you what kind of paper is compatible with your machine.

According to TandyFax product managers, although many brands of fax paper will run through the TandyFax 1000, any paper other than Tandy's may damage the machine's thermal head (*see sidebar, item 5*).

Your salesman misled you. Until you can find your model on a compatibility chart, or until Tandy officially suggests an alternative paper, you'll have to bite the bullet and keep using the more expensive Tandy paper.

## THE NOT-SO-COLORFUL MAC

**Q:** I know Mac IIs have color capability, but how do I add color to a regular Macintosh?

JEFF MALDAVS

Lincoln, Nebraska

**A:** The SE/30 is the only Macintosh aside

from the Mac II computers (II, IIx, IIcx, IIfx) that can be upgraded to a full-color system. There are several third-party cards and monitors on the market for this conversion, from Radius, Micro Graphic Images, and other companies.

If you are desperate for color, the Mac SE does provide for very limited color with certain third-party cards and monitors. There is little software support for the SE's ersatz color capabilities.

## MORE ON FAX PAPER

**1. Know the size and type of paper your machine requires.** All too often people buy large quantities of paper only to find out that the rolls won't fit in their fax machine. Most home-office fax machines take 8.5-inch-by-98.5-foot rolls.

**2. Buy from a reputable paper supplier.** A salesperson should never try to sell you fax paper without asking what model of fax machine you have. Also, any well-stocked office-supply store should have a compatibility chart listing what paper can be used with which fax machines.

**3. Stock up on fax paper.** Estimate your monthly fax-paper consumption and try to have a week's worth of emergency paper.

**4. Evaluate the output quality of your fax machine regularly.** Very dark or light output could indicate paper incompatibility. It could also mean a damaged thermal head.

**5. The wrong kind of paper can damage your fax machine.** The paper's thin wax coating can scrape off, and, over time, clog your machine's thermal head, insulating the device and causing premature burnout.

**6. Cheaper grades of paper can damage the thermal head.** Low-quality paper is typically more abrasive and can scratch the head.

**7. Clean your machine's thermal head twice a year.** There are many fax-cleaning kits on the market. (See the Office Essentials column in this month's HOME-OFFICE COMPUTING for information on Murata's Faxcessory Kit.)

*If you have technical questions or computer ailments that need diagnosis, our technical staff will try to help. Although we cannot answer each letter personally, this column will deal with frequently asked questions and common problems. We reserve the right to edit letters for length and clarity. Please include your name, address, and phone number with all correspondence. Send your letters to Clinic, HOME-OFFICE COMPUTING, 730 Broadway, New York, NY 10003.*

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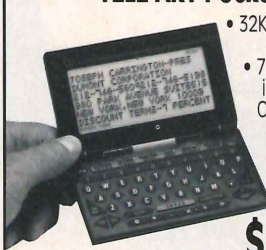


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# Shrink Your Files

## Create 3-D Pie Charts on Your Macintosh

### Mix Apple II Graphic Creations with Video

#### IBM / M S - D O S

BY HENRY F. BEECHHOLD &  
STEVE MORGENSTERN

**Keep your hard-disk drive at its best.** There seems to be no end to hard-disk-drive advice. Let's face it, your hard-disk drive is probably the weakest link in your computer system. Eventually, these mechanical monstrosities will join the ranks of curios from the stone age of computing (along with eight-inch floppy disks), but for now, we have to make do with what we've got. To prevent disaster, back up all your files on floppy disks and try *SpinRite* (Gibson Research Corporation; \$59), a hard-disk-drive maintenance utility program designed to keep your disk in tip-top condition.

Hard-disk drives (floppy disks, too) are divided into discrete data-storage areas (called sectors) that are individually addressable by DOS. As you save information on a disk, the disk drive will arrange the data in adjoining sectors wherever possible. And when you delete a file, the sectors it occupied are left empty.

Sectors open up in a random and unpredictable order as files are erased. As new files are saved to the disk, those sectors will be filled again on a first-come-first-serve basis. The result is files that are stored in noncontinuous sectors.

Your hard-disk drive must work extra hard to read fragmented files. It reads one sector, then jumps to each successive location where data is stored. Time spent jumping back and forth adds up, considerably slowing your file-retrieval speed. Programs like *SpinRite* are designed to sweep up the mess and reorganize your disk space for maximum efficiency.

*SpinRite* determines the best patterns of file distribution after a thorough analysis of your hard-disk drive. The program then re-formats the drive without harming your data. The intense, repetitive writing process that the program goes through can actually restore formerly unusable sectors. (The program recovered 16K of disk space on my hard-disk drive.) But to make certain that your drive continues to operate up to par,

you need to run *SpinRite* regularly—at least every three months.

*SpinRite* is menu-driven and will print out a full report of pertinent disk parameters, including a chart showing bad sectors. You can reformat at four levels of intensity, the highest being Extremely Thorough Pattern Testing, which is the comprehensive method you are urged to use when running *SpinRite* for the first time.

The program will work with nearly any hard-disk drive and controller card (hard cards included). I'm impressed with what *SpinRite* did for my drive, and I recommend the program highly.

—H.B.

**Capture screen images and translate graphics-file formats.** I've known about *HiJaak* (Inset Systems; \$149) for some time and had always thought of it as a desktop-publishing product. But it is actually a dual-function utility package. It can capture and store high-quality images from your screen while you are running just about any program, including Microsoft *Windows* applications. It can also translate graphics files from one format to another.

My immediate need was to provide HOME-OFFICE COMPUTING with an image of my computer screen running Lotus *Magellan* to accompany an article (see "Master the Data on Your Hard-Disk Drive with *Magellan*" page 36). *Magellan* works in text mode, using color to differentiate areas of the screen. I wanted to print a copy of that screen on my laser printer, with shades of gray representing the on-screen colors. I was getting nowhere. Then I tried *HiJaak*.

*HiJaak's* memory-resident Capture feature is extraordinarily flexible. You can capture an image of a graphic screen in a disk file with as much resolution—up to VGA level—as your display adapter offers. If the screen you're capturing is in text mode, you can print out at the full resolution of your printer with special fonts provided by *HiJaak*. I used a 300-dpi font for my *Magellan* screen with excellent results.

But what if you're working on an image that's larger than the screen, and you've been scrolling from section to section? In other screen-capture applications, if the image doesn't fit on one screen, you're out of luck. But with *HiJaak*, you can save the

entire image (text or graphic) in one file by intercepting the printer output—if your application can print to an HP LaserJet or HP 7440 plotter.

If you don't have an HP printer or plotter, you can convert the file to a format you can use. *HiJaak* supports most graphic and fax-board formats, which the program will also convert to Encapsulated PostScript.

*HiJaak* also puts a tremendous variety of clip art at your disposal, including files downloaded from CompuServe in their .GIF format and files ported over to your machine from an Amiga or a Macintosh.

And, if you're using a fax board, the latest version of *HiJaak*, v1.1c, is a must. It will translate graphics files into a generic fax format as well as the specific formats used by several popular fax boards. You can also convert fax files you receive into a format that can be loaded into your favorite graphics program. Not bad for \$99.

**Running out of space? Shrink your files.**

Jerry Pournelle, a noted science fiction writer and computer journalist, doesn't have to worry about storage space for his files and applications. In a recent article, Pournelle listed the storage devices attached to one of his computers: a 330MB hard-disk drive, an 800MB WORM (Write Once Read Many times) drive, and a CD-ROM drive.

Whew! But for most of us, a 20MB or 40MB hard-disk drive is already a pricey luxury, so we've got to make the most of what we've got. I recently tried out a program called *Squish Plus* (Sundog Software; \$99), which significantly increased the storage capabilities of my modest 40MB drive by applying a little wizardry: It shrinks files.

The technique is properly dubbed file compression, and it's already familiar to many computer owners who use shareware such as *ARC* and *PKZIP*. These programs, often used to make files more compact for speedier transmission via modem, produce specially formatted files that can occupy as little as half the space of the original. To use the files when you call them up, though, you have to go through a separate decompression step to expand them back to full-size on disk. *Squish Plus* works the same way, but with an added bonus: It compresses and decompresses automatically as you



## MACINTOSH

BY JIRI WEISS, JR.

save or retrieve files.

I use *Squish Plus* for two things. First, I maintain a number of data files on my hard disk in squished format. These include soft fonts for my HP LaserJet, graphics, clip art, and lots of text files. So far I've had no problem accessing any of these files from my application software. It sometimes takes a few seconds extra to load a squished file, but the difference is not significant.

I've also been squishing files I use only occasionally and saving them on floppy disks. My AT-compatible 1.2MB floppies hold about 2.4MB of data this way. When working with floppies, the time delay in saving and loading squished files is more noticeable than with the hard disk, but I'll accept the trade-off for these infrequently accessed files. And all the compression activity goes on in the background—a definite plus. —S.M.

HENRY F. BEECHHOLD is the author of *The Brady Guide to Microcomputer Troubleshooting & Maintenance* (Brady Books, Prentice Hall Press, New York).

STEVE MORGENSTERN can be reached on CompuServe (ID: 72545,606) or on MCI Mail (SMORGENSTERN).

**Check your spelling from within all your applications.** Bad spellers and careless typists, take heed: There's a handy spelling checker that can be used from within most word processors, spreadsheets, desk accessories, databases, even *HyperCard*. Electronic Arts' *Thunder II* will be especially useful to *PageMaker* users who until now have had to quit and enter a word processor to check their spelling.

With *Thunder II*, you can check the spelling of a whole document or correct as you go. You can also instruct the program to look for common errors, such as an extra period at the end of a sentence or a repeated word. There's also a search-and-replace routine that lets you create a list of all the replacements you want to make, then makes the changes all at once, instead of one at a time.

*Thunder II* loads automatically at start-up and shows up along the menu bar in the applications you choose. You decide where you want it to be active and what dictionaries you want to use through the Mac's Control Panel.

**Pie charts that look like real pies.** The Italian painter Giotto didn't like his creations to look flat. So instead of settling for painting only flounder and sheets of paper, he trained himself in perspective. If you, too, see the value in pie charts that look like real pies instead of gutless colored circles, there are two new 3-D packages that should help flesh out your graphics.

*Visual Business No. 5* (Visual Business Systems Inc.; \$395) will produce high-resolution color slides from three-dimensional pie, bar, and other charts that you create automatically from data entered manually or imported from *Excel*. You can move, rotate, and add perspective to the charts and any accompanying text. The package will import backdrops created in paint programs, as well as charts from other presentation packages, including *Persuasion* and *PowerPoint*.

The Output Manager, a utility included with *Visual Business*, lets you edit your slides and output them to a slew of high-resolution film recorders and color printers. If you don't have a film recorder, you can take your slides (on disk) to a service bureau. The program requires at least a Mac II with 2MB and a 16-color monitor.

If you'd like to go beyond mere automatic charting, look into Enabling Technologies

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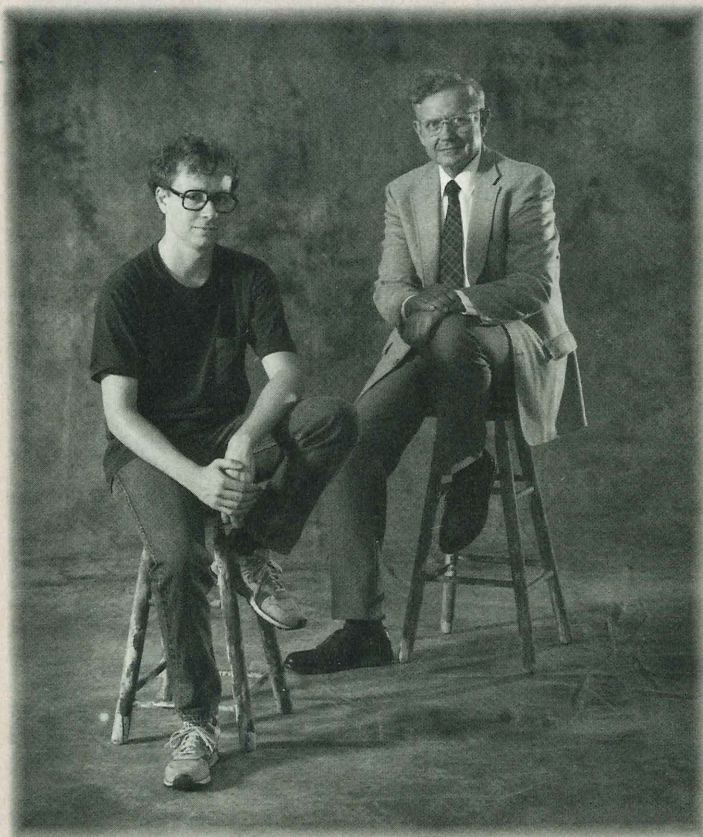
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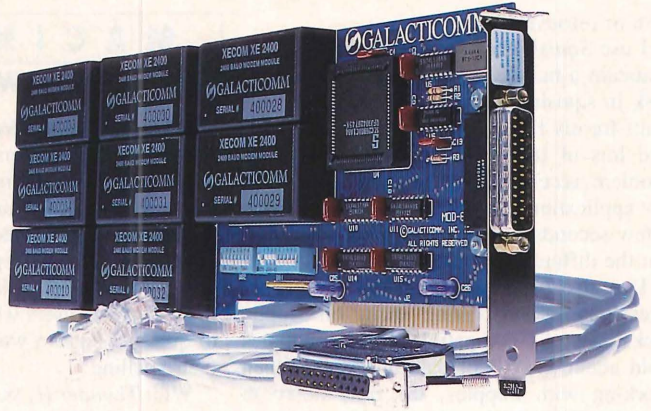
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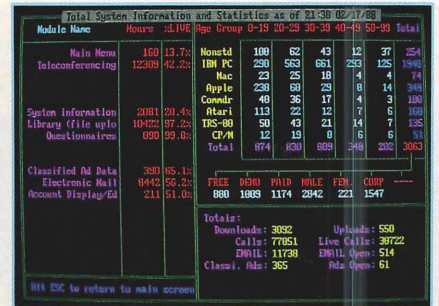
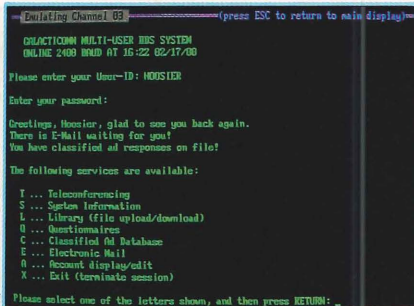
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Images created with *Zing* can be pasted into word processors, desktop-presentation packages, and page-layout programs. *Zing* runs on all Macs from the Plus up, and files created on the Mac are compatible with the MS-DOS version of the program.

JIRI WEISS, JR., is a freelance writer based in Berkeley, California, and can be reached on MCI Mail (JWEISS).

## APPLE II

BY CHARLES H. GAJEWAY

**Broadcast your graphics.** I've been working with the Apple II Video Overlay Card (Apple Computer, \$549 for IIe and GS) long enough to have a feel for it. Apple is pro-

moting the product as a recreational and educational device, but it has some business potential as well.

The V.O.C. lets you mix a computer-generated graphic or animation with a video signal, then display, record, or broadcast the composite picture on a standard video device (the card does not process audio). You can control how the combined picture appears via a desk-accessory program called *VideoMix*.

With input and output ports (called NTSC-standard ports) that are compatible with most standard video devices and the Apple Red-Green-Blue (RGB) output you can connect the V.O.C. to almost anything. A nice side benefit is that it imparts the display capabilities of the GS to a IIe, at a far lower cost than that of a typical video-

effects generator.

V.O.C. could serve as an important part of a low-cost video production system, which would be a nice extension to a training business or could be used as a stand-alone operation (adding titles and effects to home videos, small-scale production, promotion and marketing, and so on). The unit has some shortcomings, however, that make it unsuitable for a broadcast-grade device.

First of all, the computer-generated image is limited to Apple II resolution. While this resolution can be quite good, large-scale text is jagged, certain colors and images tend to jitter on the screen, and the range of effects is limited.

Worse, however, is that precise image synchronization is nearly impossible. Without a way to lock video source and computer-generated graphics, it can be difficult to synchronize effects or animation precisely. Such precision is too much to ask of such an inexpensive device or even of half-inch video tape; but its absence is still a limitation, especially when it comes to professional applications. ■

CHARLES H. GAJEWAY can be reached on CompuServe (ID: 73357,3577) or on GENie (ID: C GAJEWAY).

## MANUFACTURERS MENTIONED

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# Help! Part II

BY STEVE MORGENSTERN

## Video, Audio, and Disk-Based Tools Show You How to Design More Persuasive Pages



I wouldn't wish my first desktop-publishing experience on anybody. I had done enough homework to know what could theoretically be accomplished with DTP and blithely promised

my client I would turn out newsletter pages, all ready for the printer, in a few days.

Why not? I knew computers and had plenty of hands-on experience producing publications using traditional methods. I tore the shrinkwrap off *PageMaker* and got to work . . . reading, experimenting, and praying, drinking black coffee by the glare of my monitor, frantically thumbing through the manuals as the hours before deadline ticked away. I made that deadline, but my eyes looked like a county road map, and the publication's design had a certain simplicity born not of artistic restraint but full-speed-ahead desperation.

How can you avoid starring in your own *Tales of Typographic Terror*? Start by building plenty of learning time into your start-up schedule. Then check out some of the audio, video, and disk-based resources discussed below and see last month's "Help! Part I" (page 30) for talk about two good books for desktop publishers. If you're like me, you don't have the time or the money to enroll in Desktop Publishing 101 (just finding a worthwhile course is a job in itself); but there is plenty of valuable off-the-shelf training available.

### DISK-BASED HELP

*DTP Advisor* from Broderbund is really four programs in one, all cleverly interconnected. When used together, they are a DTP nerve center on disk.

The package is a set of *HyperCard* stacks for the Macintosh. One stack provides a wide-ranging tutorial that begins with the behind-the-scenes aspects of DTP, from defining your publication's audience to meeting a deadline. Then it's on to the nuts and

bolts of designing and composing pages and getting them ready for reproduction.

The tutorial links to a second stack of forms for developing your materials. For example, one tutorial section helps you determine your publication's objective by asking you pointed questions, and your answers are automatically entered in a personalized definition form. Other forms help you set schedules, estimate costs, record type and printing specifications, and more.

Anybody will find at least some of these forms good organizational tools. The scheduling form, for instance, includes an automatic calendar function that calculates deadlines for each stage of the project after you've entered a starting date and the number of working days required for each step.

A third stack stores information about freelance resources and printers. If you're running a do-it-all-yourself operation, you'll probably ignore this section, but it could prove useful if you are juggling several outside providers.

The fourth stack provides a glossary of well-chosen and clearly defined essential DTP terms. The terms included in the glossary are marked with an asterisk when they appear in the tutorial—click on the word and you get the definition. You also can search or browse through the glossary directly.

*DTP Advisor* is a strong package, but I have a few reservations: The marketing and managing sections of the tutorial could have used a good editor to remove some of the

too-obvious observations and questionable assertions.

One too-obvious observation is "When promoting or marketing to a business audience, it is important to know something about that business or about business in general." My favorite example in the questionable-assertion category is the following, regarding managing creative resources: "Explain your project; then explain it again. After all, these are 'creative types.'" If I understood what that means, I think I'd be offended!

However, when it comes to explaining the specifics of building a publication—from one-sheet flyers to brochures and newsletters—the tutorial works well, particularly when it calls on *HyperCard*'s limited animation capabilities to illustrate a point. You can, for example, see the results of leading and kerning choices on-screen with sample text that responds interactively to your choices.

### AUDIOTAPE HELP

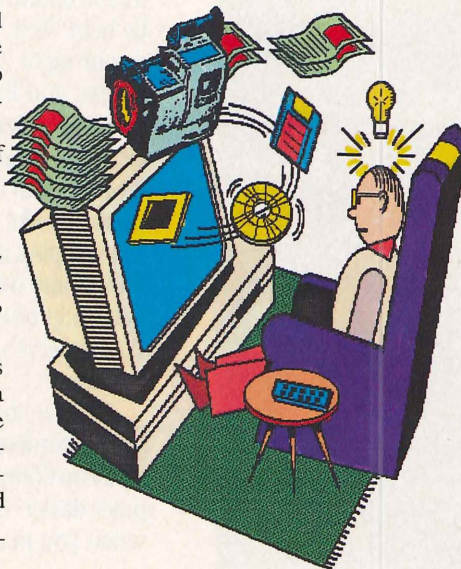
*Introduction to Design for Desktop Publishing*, a comprehensive introduction to the principles and practices of publication design, is not keyed to any specific DTP software package.

Instead of computer-based activities, you get eight audiotapes and a 250-page workbook, which follows along page by page with the tapes. The package also includes an acetate gauge for measuring type sizes and line thicknesses, a packet of paper samples to illustrate the importance of selecting the right stock, and two reference charts that show how the colors you specify will actually print on two different kinds of paper.

This almost terrific course is loaded with practical information. One strong section prints six sample layouts in the manual and critiques their design on the tape, elucidating the concepts of effective use of white space and balancing a page.

Three tapes focus on design basics such as layout grids, typography, and clip art and scanned images. The next four tapes tackle the specific challenges of designing different types of publications: newsletters, manuals, catalogs, directories, reports, advertisements, brochures, and magazines and newspapers. And the first-rate final tape on printing will make you a much better consumer of a commercial printer's services.

Two warnings: The presenters sometimes have that cloying singsong tone I remember from elementary-school filmstrips. Also, the course's unconventional structure frustrated



STEVE MORGENSTERN is a contributing editor for HOME-OFFICE COMPUTING.



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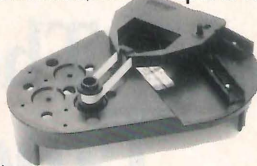


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## DESKTOP PUBLISHING

me: The presentation is linear, with explanations of techniques and references to workbook examples. Then, when a supposedly peripheral topic comes up, the narrator says that if you're interested, you should rewind to the beginning of the audio sidebar and flip the tape over. After listening, you have to flip the tape over again, rewind to the spot where the main lesson left off, and continue. It might make sense if the additional material were really extraneous, but I was interested in nearly all the "side issues," and all that flipping and rewinding was a pain.

The publisher, FlipTrack Learning Systems, built its business on this approach, but I certainly didn't flip over it. Still, FlipTrack offers several other DTP courses worth listening to, including *How to Use Ventura Publisher* and both Macintosh and MS-DOS versions of *How to Use PageMaker*.

### VIDEOTAPE HELP

VideoTutor's *Learn Graphic Design*, a package of three videotapes presented by designer-author Jan V. White, let me see and hear a gentleman I have come to consider an old friend, though I've never met him.

In my first job as an editor years ago, I not only massaged manuscripts into shape, but also designed the books. At the time I thought this was a typical example of the exploitation of liberal arts graduates—desktop publishing hadn't been invented yet, so how could I know this was wonderful training? My bible in the trenches was the book *Editing by Design*, also by White (and since then I've gotten a lot of help from another of his fine books, *Graphic Design for the Electronic Age*).

Now I've had the pleasure of watching White explain and demonstrate his principles, and I'm happy to report that he's a pleasant and earnest man in a dapper bow tie who never failed to hold my attention throughout this chatty, informal, and informative five-hour presentation.

White's central theme is the seamless integration of text and graphic design. He

frowns on pages that are "decorated," preferring designs that cunningly draw the reader into a story. Working simply, without much video wizardry, White explains several of the basic technical considerations of good design. For example, he shows how placing illustrations in the top outside margins catches the reader's attention as he or she flips through a magazine. I also liked his suggestion that you tape all the pages of your publication end to end to gain a better understanding of the overall flow and consistency of your design. When you're used to peering at page fragments through the porthole of your monitor, looking at your work in a long scroll offers a refreshing perspective.

White's specific design suggestions are all worthwhile, but for me the core of his teaching is a philosophy that should permeate all of your work on publications, whether you're working alone or with other specialists. It is a commitment to thinking visually.

As White explains it, "We have to understand how the reader is going to react, what it is that makes things interesting and delightful, and present them in such a way that they are indeed interesting and delightful. . . . Think about how the viewer is going to react—how the reader is going to like to read."

Unfortunately White's excellent advice is not cheap. The three-tape set costs \$695 (although the publisher currently has a special offer: "only" \$349 until mid November). The pricing is clearly oriented more toward the corporate purchasing department or the university library than you or me. What can I say? If you have deep pockets, or belong to an organization with deep pockets, get these tapes and pay careful attention—you'll be a better designer and editor for the experience. And if the dollars are too daunting, read White's books.

### BUYER'S GUIDE TO HELP

Helping businesspeople get the most out of their computers is big business, and we've only covered a small sample of the learning aids available. As you evaluate your options, keep the following in mind:

Be aware of your time constraints. If you can afford to devote several hours in front of the computer to a cassette-and-disk-based tutorial, fine. If your only spare hours are spent taking the train to the city, you can pop the audiotapes in your portable cassette recorder or bring along a good DTP book instead.

Be sure to check your library and local computer users' group. Some of these training aids are fairly pricey, and, while I consider the ones mentioned here worth the expense, they'd be just as effective borrowed from someone else's collection. ■

### SOURCES

**DTP Advisor** (\$80). Broderbund Software, Inc., (415) 492-3200. System requirements: 1MB Macintosh; two 800K drives (hard-disk drive recommended); System 4.1 or higher.

**Editing by Design** (\$35). R.R. Bowker Co., (212) 645-9700.

**Graphic Design for the Electronic Age** (\$25). Watson-Guptill Publications, (212) 764-7300.

**Introduction to Design for Desktop Publishing** (\$295). FlipTrack Learning Systems, (312) 790-1117.

**VideoTutor: Learn Graphic Design** (\$349 until November 15, 1989; then \$695). VideoTutor, (512) 328-3721.



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# Managing Costs with *Excel*

BY KAREN J. NOVAK

## How a Home-based Construction Consultant Helps Clients Estimate Fees, Manage Projects, And Track Costs with A Spreadsheet

Four years ago, my husband and I embarked on a home-buying trek. Once we found our dream house, we hunted for a reputable building inspector. They're the people trained to tell you if the little leak under the upstairs bathroom sink means worse things to come—and tell you what it will cost to repair.

The house is fine, but we sure can't recommend our inspector. He assured us a ceiling fan would provide badly needed air circulation in our living room and quoted a modest installation price. We bought the fan, hired an electrician, and were astonished to discover that because we didn't have much of an attic, installation would be costly.

If only we had called Ron West.

### MAKING AN EDUCATED—AND PROFITABLE—GUESS

Ron West owns and operates R.W. West Consultants, a construction-estimating and building-inspection firm run from his Seattle, Washington, home office. Many of West's clients are building contractors who rely on West to estimate and keep track of costs for their construction projects. To achieve those goals, West relies on a spreadsheet—Microsoft *Excel* for the Macintosh—to calculate, interrelate, manipulate, organize, and retrieve the myriad numbers he faces daily.

West started his business in late 1986 and bought a Mac almost immediately. He had had no previous computing experience, but he quickly saw the ways a spreadsheet could contribute to his success. "*Excel* allows me to put out a product much more professional-looking than my chicken scratches."

Not only can West turn out professional-looking estimates, but he also provides extra

services to small contractors unaccustomed to luxuries like cost-management information. For example, West supplies daily time and labor distribution sheets created with *Excel* to contractors, who in turn use the forms to record the number of hours worked and the amount of work completed. Each contractor phones in those details to West as often as necessary—daily, weekly, fortnightly—and West plugs the numbers into his spreadsheet to calculate whether the client is making or losing money on a job.

West adds, "This information gives the contractors time to make corrections to the estimate if things aren't panning out. They may need to fire somebody and replace him or her with someone who is more productive on the job, for example. All this helps when it comes to doing a future estimate. They know exactly what their costs were the last time—they're not guessing."

By automating construction estimates, West makes his operation so well organized that if I were having a house built, he'd be able to tell my contractor at any time during construction whether or not the project was on budget. How? West estimates profit and loss with a simple cost-tracking worksheet, one that can be done on any spreadsheet.

### FROM MANUAL TO AUTOMATIC

There's nothing magical about how West began automating the work he had done manually for 10 years. He had always used arithmetic, algebra, and geometry in his

work, so applying mathematical principles to create spreadsheet formulas wasn't foreign to him. West says, "I just sat down with the software manual and started figuring things out. Since I had done everything by hand, I knew what I needed to make the most of a spreadsheet."

First West identified the objectives he wanted to achieve with the program, like creating a cost-tracking summary for a remodeling project or calculating the cost to reroof a 2,000-square-foot house. He also wanted to create and maintain extensive lists in his spreadsheet tallying costs for specific tasks. His roofing list, for example, specifies the cost per square foot to install all types of roofing available to his clients. He then selected specific program functions, like formulas (which calculate a new value from existing values) and links (where you enter a formula or define a name containing a reference to a different worksheet) to develop the applications he wanted.

### CORRECT ESTIMATES THE FIRST TIME

Let's look first at how West set up his construction-estimating operation, where he uses spreadsheets most. Building spreadsheets always begins from the rectangular grid of columns and rows called worksheets. While *Excel*'s maximum size is 256 columns by 16,384 rows, West's are typically only 30 columns wide.

West set up his bid spreadsheets to calculate formulas based on a quantity entered,

The image shows a screenshot of the Microsoft Excel for Macintosh application. The menu bar at the top includes Apple, File, Edit, Formula, Format, Data, Options, Macro, Window, and an icon. The 'Options' menu is open, displaying the following options: Set Print Area, Set Print Titles, Set Page Break, Display... (highlighted), Standard Font..., Freeze Pages, Protect Document..., Calculation..., Calculate Now (with a formula icon and '='), Workspace..., and Short Menus. The spreadsheet below is titled 'LOAN ANALYZER' and contains data for three cases (A, B, and C). The data is organized into rows for Principal, Interest, Term, Payments, Yearly Pay, Total Paid, and Monthly Pay. At the bottom, there is a table showing the balance and payment details for each year (1, 2, 3).

	A	B	C	D
1	<b>LOAN ANALYZER</b>			
2				
3		Case A	Case B	Case C
4	Principal	\$70,000	\$70,000	\$70,000
5	Interest	9.75%	10.75%	11.75%
6	Term	30	30	30
7	Payments	360	360	360
8				
9	Yearly Pay	\$7,271	\$7,894	\$8,517
10	Total Paid	\$218,134	\$236,819	\$255,510
11				
12	Monthly Pay	601.41	\$657.83	\$710.25
13				
14				
15	YEAR	Beginning	Ending	Payment Total Paid Principal Interest
16		Balance	Balance	Paid Paid
17	1	\$70,000	\$69,554	\$7,271 \$7,271 \$446 \$6,825
18	2	\$69,554	\$69,064	\$7,271 \$14,542 \$490 \$6,782
19	3	\$69,064	\$68,533	\$7,271 \$21,813 \$577 \$6,737

Specify items to display or set gridline color

KAREN J. NOVAK wrote "Meet Dr. Database" in the July 1989 issue of HOME-OFFICE COMPUTING.

Seattleite Ron West uses spreadsheet software to give his construction-consulting business a competitive edge.



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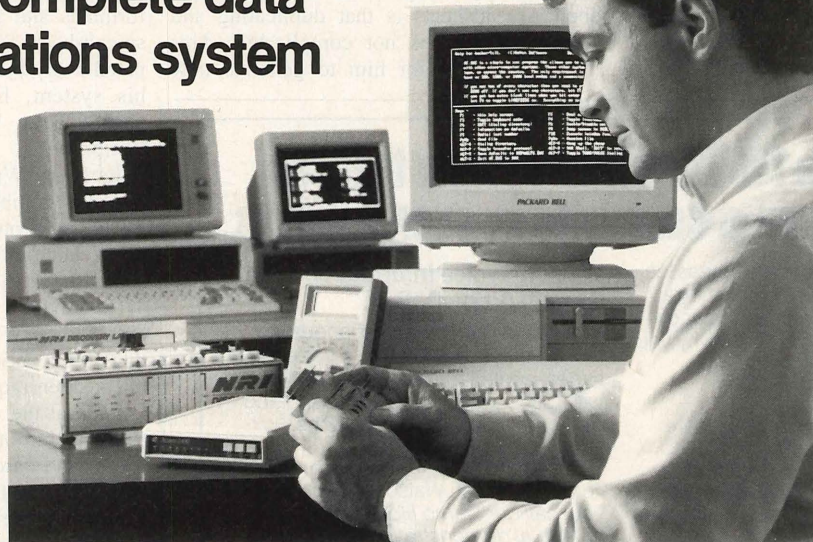
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such as 2,000 square feet of plain roofing. When he changes that value in the quantity cell, all other values, such as labor, materials, and the total estimate, adjust accordingly. "If I had to estimate strictly pencil to paper," West says, "it would probably take me five to ten times as long."

The spreadsheet also helps him look quickly at different ways of bidding on a job. If the final bid for a drywall project

comes in higher than the client expects it to, West easily prepares a lower bid by substituting less expensive materials, such as 1/2-inch for 3/8-inch drywall, and recalculating.

#### DIVIDE TASKS, CONQUER WORK

One of the things West especially likes about spreadsheets is that duplicating and modifying them is not complicated. This makes it simple for him to generate new

spreadsheets to meet any changing requirements.

Let's say he prepares a bid to renovate a community center, and it's the first time he's had to estimate a job that requires fire doors. Well, he doesn't prepare a separate spreadsheet, he simply adds the new item, formulas and all, to a doors-and-hardware spreadsheet. Since he couldn't have anticipated every bid possibility when he devised his system, he has to be flexible, and spreadsheet software gives him that flexibility.

Early on, West found that worksheets can become cumbersome as they grow. To avoid that problem, he finds it best to organize related information in separate, smaller spreadsheets by *linking*. Linking also lets West produce summary sheets for his clients. When West prepares a bid for which there are a variety of construction items, the client often requires an item-by-item bid.

Back at the community center, his client needs to reroof, paint, and install drywall, doors, and hardware. Taking bids for these items, storing them on separate worksheets, and linking them on his bid-form worksheet produces a summary sheet that provides all the information West's clients need to bid on their jobs and make a profit once they get the job.

West also provides clients with a less detailed spreadsheet, which benefits from *Excel's* column-hiding feature. His clients sometimes need a copy of an estimate with an invisible base-cost column. This preserves the confidentiality of their profit margin while giving the contractor's client, let's say the community center board, a printed estimate to turn to.

#### MAKING THE MOST OF HIS SYSTEM

While West takes advantage of only a handful of *Excel's* hundreds of features, his story is typical of many spreadsheet users. Like West, you may need to create a simple system with your spreadsheet—that's no reason to feel intimidated or to think that your system is underutilized.

West's clever, yet essentially uncomplicated, implementation of *Excel* demonstrates how versatile spreadsheets can be when properly understood. He developed a system that not only allows him to work many times faster than if he were stuck with a calculator, but he's designed something that enhances his image and makes him stand out from the competition. ■

#### SOFTWARE RESOURCES

**Excel v2.2** (\$395). Microsoft Corp., (206) 882-8080. System requirements: 1MB Macintosh; one 800K drive (hard-disk drive recommended); System 6.02 or higher. Also for IBM PC, PS/2.

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\*George Walther, *Phone Power* (New York: Berkley Books, 1986).

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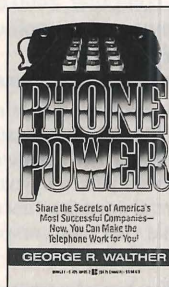
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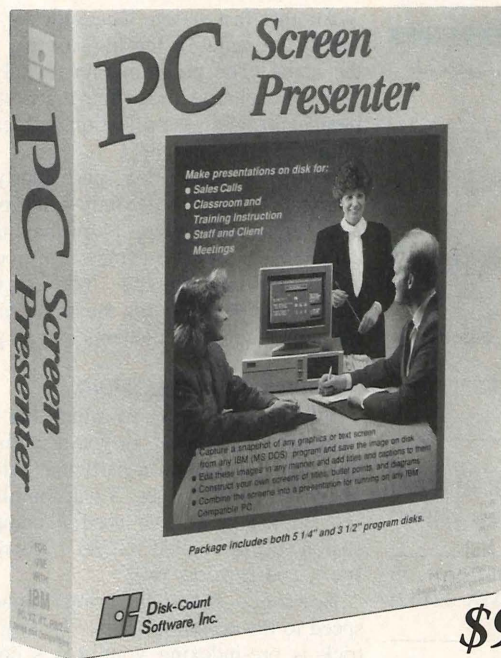


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# Master the Data on Your Hard-Disk Drive with Lotus *Magellan*

BY STEVE MORGENSTERN

## For Organizing Files and Gathering Information From Many Sources, Here's a Four-Star Package

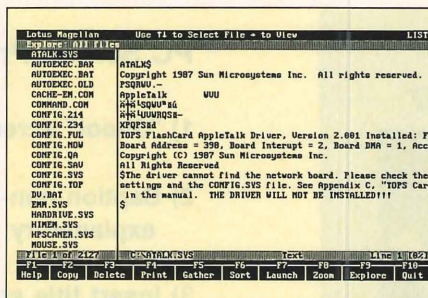
At this moment the 40MB hard drive in my AT compatible has about 30MB of files and programs on it—2,327 files in all. One file is a message from a friend, which I downloaded from CompuServe. Do I know where it is or what I named it? I don't have a clue. How long will it take me to find it? Let's see. Stopwatch ready . . . six seconds. Not only do I know where the file is, I'm actually reading it. How'd I find it? With *Magellan*.

### A HARD-DISK NAVIGATOR

*Magellan* is aptly named after the Portuguese explorer who organized the first voyage around the world. (You might want to forget that *Magellan* never completed his journey; he was killed en route, and the voyage continued without him.)

The program offers a series of powerful tools to navigate around hard-disk files. Some are fairly commonplace (performing DOS file operations from a convenient on-screen menu, for instance). But when it comes to searching for and displaying the contents of your files—and then reorganizing the information—*Magellan* is truly exceptional, both in function and in speed.

The easiest way to show how the program works is to refer to the sample screen (see figure). You'll see the two main windows—on the left, file names appear in the List Window; on the right, one file's contents are displayed in the View Window. As you move the bar-shaped cursor down the list highlighting file names, the View Window changes nearly instantly to display data. If you want to see more of any file, just press the right-arrow key to move the cursor into the View Window. Now you can move through your file line by line or screen by



*Magellan's split-screen approach lists a directory of files on the left and the contents of a selected file on the right.*

### Lotus *Magellan*

VERSION REVIEWED: 1.0

SYSTEM REQUIREMENTS: 512K IBM PC, PS/2; hard-disk drive; DOS 2.1 or higher; 5.25- and 3.5-inch

PUBLISHER: Lotus Development Corp., 55 Cambridge Pkwy., Cambridge, MA 02142; (617) 577-8500

PRICE: \$195

OVERALL PERFORMANCE: ★ ★ ★ ★

DOCUMENTATION: ★ ★ ★ ★

ERROR HANDLING: ★ ★ ★

EASE OF USE: ★ ★ ★

SUPPORT: ★

screen or jump to the top or bottom. You can adjust each window's size or zoom either one to full screen by pressing a single key. What makes this especially appealing is that *Magellan* chooses the appropriate viewing format automatically as you move the cursor from file to file.

### SIFTING AND SORTING YOUR DATA

*Magellan's* screen shows, in a scrolling list, all the files on all the nonremovable disks in the computer. It's easy to fine-tune this list, adding floppy disks and other removable data-storage devices or narrowing down the file list by specifying drives, subdirectories, file extensions, or applications used to create the files to be included. The criteria can be combined to perform custom searches—for instance, to list only the *Word* and *1-2-3* files in your Project subdirectory—which can be named and saved for future use.

Another fast way to locate files is to start typing the name of the file—or any part of the name. The program immediately highlights the closest file name matching your input, narrowing the selection with each additional letter you type.

A final handy option, particularly when you're dealing with a combination of hard- and floppy-disk files, is displaying your subdirectory and file names in a tree structure in the List Window. You can quickly cursor your way through the branches of the tree, displaying file contents as you go.

### SOPHISTICATED SEARCHING

When you don't know which file has the information you want, or you need to see all the files that contain a particular reference, *Magellan* really shines. To accomplish this task in the past, I've used a competitive search utility called *GOfer* (Microlytics, Inc.), and it works well.

However, *Magellan* brings unheard-of speed to the search process. The key to this trick is pre-indexing your disk's contents. *Magellan* creates compressed index files that note every word in your files. By referring to these indexes, the program can execute your search requests virtually instantaneously.

Depending on the size of your disk, creating an index can take a while the first time—the initial indexing of my 40MB disk took about 25 minutes. You only have to go through this complete indexing once, though; the program's Update facility revises the index references for files that have changed, rather than recreating the entire index from scratch. You can further refine the indexing selection to meet your own needs, creating smaller subindexes that include only those files you intend to search.

Once your index is in place, you can perform what Lotus calls a *fuzzy* search. You search for a single word or a phrase as long as you like and can also specify words that should not appear in the selected files (for example, all files including *California* and not *New York*).

Why do they call it fuzzy? Because the program looks not only for the word in the form you indicate, but for variations on it. Searching for *home*, for instance, also turns up *homed*, *homer*, and *homes*. This works

STEVE MORGENSTERN is a contributing editor for HOME-OFFICE COMPUTING.



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only for word endings, however. A search for *telephone* would not produce *phone* (though you could include both words in the same search criterion).

As indicated earlier, even substantial searches are completed in seconds. The resulting list of files is displayed in the List Window with a Search Rank percentage figure alongside it. The more times the search word or phrase appears, and the more precise the match, the higher the Search Rank. With the file names on the left and the file contents displayed on the right, it's easy to review the results of your search.

### GATHER YE TEXT BLOCKS WHILE YE MAY

Once you've found the references you want, you tell the Gather command to select blocks of text from several locations in a file, or from several different files, and transfer them into an ASCII text file that virtually any word processor can load.

I use that extraordinarily powerful feature frequently. For example, I write a weekly feature for the Prodigy on-line service that includes descriptions of foreign cities. I recently used *Magellan* to scan a year's worth of files, find all the city names, and gather those descriptions into a master file for fu-

ture reference.

In your business, you might use Gather to search for a client's name and combine sections from letters, proposals, and spreadsheets into one file to use in writing a report, then load the resulting file into your word processor for polishing and formatting.

### FILE-OPERATION EXTRAS

*Magellan* offers many of the file-management options other hard-disk utility programs offer, including deleting, copying, moving, renaming, and printing files. You can mark a group of files to be included in any of these operations. I was pleased to discover that *Magellan*'s speed compares favorably with that of other utilities. For example, copying the contents of a 200-file subdirectory from my hard disk to a floppy took 12 minutes using *XTree Pro*. The identical operation with *Magellan* took only 9 minutes.

Finally, you can start another application from within *Magellan* and return directly to *Magellan* when you quit the program. This is particularly useful when you want to change a file you're viewing. Just launch the application used to create the file, make

the changes, and come right back to where you were in your search. Since *Magellan* takes up only 10K of your system memory while it's waiting for your return, this operation is especially elegant. In fact, if you find yourself using *Magellan* frequently, you can add a line to your AUTOEXEC.BAT file (easy instructions are in the program manual) to take you directly to *Magellan* when you boot up.

### MY SHORT WISH LIST

While it is simple enough to launch my word processor from *Magellan* to edit files, the program would be better if it let me make minor changes directly with a simple text editor.

You can start using *Magellan* productively with its default settings right out of the box. But as you start to customize the software to fit your specific needs, you'll have to grapple with a few peculiarities, most notably the program's expanded, nonstandard use of DOS wild-card characters.

I am concerned about Lotus's technical support. The program includes six months of "premium" hotline support, a definite plus. That means an 800 number and priority handling of calls. The technical-support people I reached were uniformly courteous and knowledgeable. Premium technical support is great, as long as it lasts without extra charges. After the six months go by, though, I'll be in trouble. I never got through on the standard technical support number. Not once in two dozen attempts.

The number of programs for which *Magellan* can display formatted files is limited. People using spreadsheets and databases not supported by *Magellan* will have an especially tough time. Lotus says it has no plans to create additional viewing filters, leaving that up to the application developers. I can't help thinking that's a serious mistake.

### WHO'D BENEFIT FROM MAGELLAN?

Anyone who generates data from several programs, creating a diverse collection of files, is a candidate for *Magellan*. That could include information-intensive workers such as lawyers, researchers, writers, and salespeople, and anyone preparing reports. But your major purchase consideration might be disk space. Even without its demo and sample files, the program and its indexes take up more than 1.6MB on my hard disk.

With that much overhead, I couldn't recommend *Magellan* if it chugged along at a moderate pace. But it doesn't—it flies! In the weeks I have been using the program it has saved me hours of searching for related information in files created with various applications and saved in the far corners of my hard and floppy disks. *Magellan* has earned a permanent place in my day-to-day working routine. ■

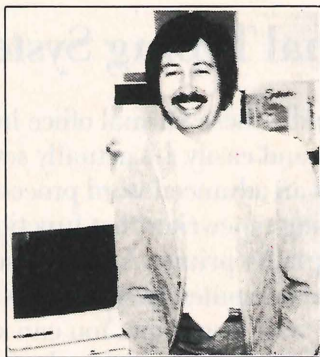
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(Battle Ground, WA)

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ED SIMPSON

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Do you want to learn how to escape the "payday-to-payday" rat race? Ed Simpson invites readers of this column to preview his amazing collection of easy home computer business opportunities.

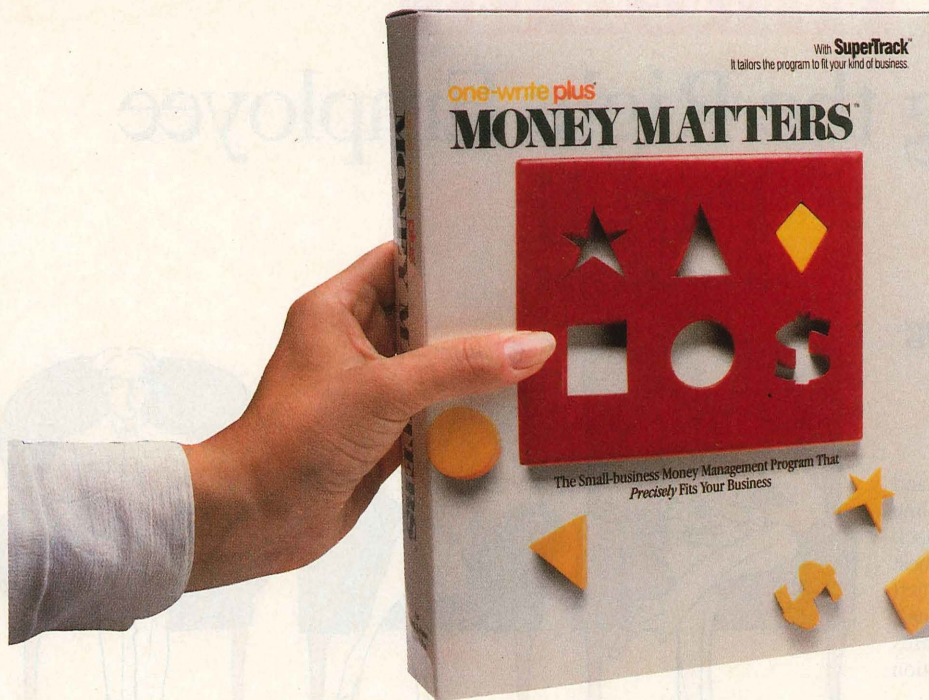
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# Finding the Right Employee

## Part II

BY BARBARA STEIN

### Tips on Résumé Reading And Interviewing from Recruiter Robert Half

Your recruiting campaign went well, and you have plenty of résumés. Now it's time to weed out the bad ones, interview, check references, and, finally, single out the best person for the job. According to Robert Half, founder of Robert Half International, if you approach each of these hiring phases strategically, you'll be in a perfect position to make the best hiring decision.

Here are Half's strategies:

#### THE RÉSUMÉ MAZE

Rather than plow through all those résumés in one sitting, Half suggests reading them in "small sips" and dividing them into three piles—definites, maybes, and nos.

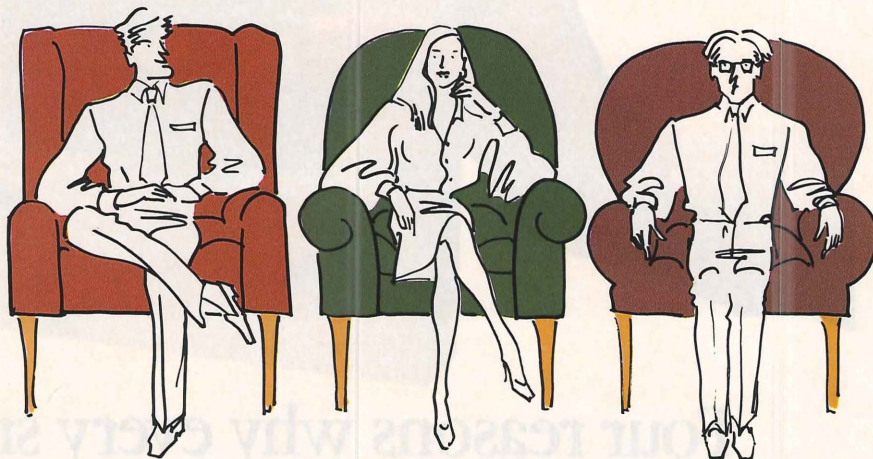
Don't let appearances fool you. Half reports that he's yet to find any significant correlation between a nice-looking résumé and a successful employee. Instead, says Half, "read between the lines. Be sensitive to the hidden signs that indicate the qualities of a successful employee."

#### What to Look For

**1. Records of achievement and profit-mindedness.** Does the candidate appreciate that businesses exist to make money? Has he or she underscored many personal accomplishments that directly affected sales, efficiency, or productivity? "The best predictor of successful future performance," notes Half, "is successful past performance."

**2. Stability and career direction.** While frequent job changes could be a bad sign, don't eliminate the candidate until you investigate the reasons. If your job jumper consistently betters his or her position, you could be rejecting a real go-getter.

**3. Specifics in job descriptions.** The less specific the descriptions, the more likely the accomplishments have been inflated. Tip-offs include phrases such as "knowledge of," "assisted with," and "exposure to," which usually mean little or no hands-on experience.



**4. Willingness to work.** While this quality is almost impossible to predict, watch for clues. Half favors people who show that they're "not mentally locked into job descriptions," and those whose leisure activities include volunteer work.

#### Red Flags

**1. Lengthy educational descriptions.** People who fill the page with detailed descriptions of courses and seminars they've taken rather than listing degrees and certificates usually lack the appropriate educational background.

**2. Chronological gaps.** If dates have been omitted, the candidate may be a compulsive job jumper or have been out of work for some time.

**3. Trivia.** "A résumé that's puffed up with trivia (sports interests and hobbies, for example) may be a sign that the candidate is weak in experience and skills," says Half. "It could also mean the candidate won't have enough time for the job."

**4. Sour grapes.** Résumés with a bitter tone or criticism of past employers should be trashed. Next time, that anger could be directed at you.

**5. Gimmicks.** You know the type—colored inks, odd typefaces, and other attention-getting ploys. Says Half, "Candidates who rely on gimmicks are rarely as interesting as their résumés."

#### SCREENING CANDIDATES BY PHONE

If your definite stack is sizable, consider screening candidates by phone. Telephone interviews can help you verify the essen-

tials, eliminate the weakest candidates, and set up appointments with top contenders.

Focus phone questions on areas relating to performance skills and knowledge. Questions such as "What would you change about your current job?" and "What aspects of it do you dislike?" for example, may help trim your pile. Imagine dealing with a sales representative who hates to drive!

#### SAMPLE INTERVIEW QUESTIONS

Now it's time for the face-to-face interview. You should cover all the bases with questions that explore experience and work history, job-related skills and knowledge, aptitude, attitudes and personality, and education. Half suggests you let the candidate know you will be checking references by saying, "Please answer my questions the way you expect your references will answer them." Here are some questions:

**1. What is your boss's title, and what are your boss's functions?** Ask this question early in the interview and don't let the candidate dodge it. From this answer, you'll learn how much work the candidate actually performed and his or her perception of place within the company.

**2. Why are you giving up your job?** Be wary of people who bad-mouth current employers.

**3. What are some of the things your company might do to be more successful?** Perceptive answers, says Half, are concrete evidence that your candidate sees the big picture.

**4. What are the attributes of the best boss you ever had?** The answer should tell you

Contributing editor BARBARA STEIN wrote "Finding the Right Employee: Part I" in last month's issue.



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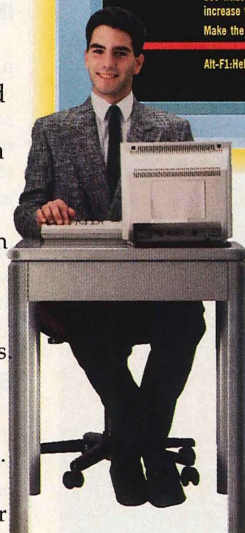
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Lotus 1-2-3

	A	B	C	D	E	F	G	H	I	J
1										
2										
3										
4										
5										
6	Product	Sales	Costs	Profit	Proj%	Sales	Costs	Profit		
7	Assembler	\$6,953	\$5,421	\$1,532	135%	\$9,387	\$5,864	\$3,722		
8	Sprayer	\$2,418	\$1,900	\$518	125%	\$3,023	\$1,960	\$1,082		
9	Stamper	\$3,746	\$3,201	\$545	100%	\$3,746	\$3,201	\$545		
10	Welder	\$2,100	\$1,800	\$300	115%	\$2,415	\$1,632	\$784		
11										
12	Total	\$15,217	\$12,122	\$3,095	119%	\$18,570	\$12,457	\$6,113		

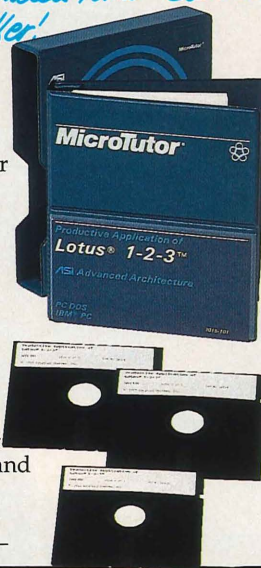
See what happens when you decrease the Assembler Proj% figure by 5% and increase the Stamper Proj% figure to 105%.  
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CIRCLE READER SERVICE 36



what type of supervision the candidate prefers and discover how receptive he or she is to criticism.

### INTERVIEW DO'S

**1. Be prepared.** Take time to review the résumé before the interviewee arrives and tailor your questions accordingly. Then set a time limit and inform the candidate of it. "Winging it," says Half, "is the biggest mistake you can make."

**2. Create a pleasant interview environment.** Interruptions not only are rude, but they destroy conversational flow. So alert coworkers and family, and switch on your answering machine. Also, unless you're comfortable leading strangers through your home, situate yourself in a quiet corner near the entryway.

**3. Put the candidate at ease.** Break the ice with small talk. The more relaxed the candidate, the better the picture he or she will

present. Moreover, if a top contender is nervous throughout the interview, you may have trouble convincing him or her to accept the job.

**4. Let the candidate do the talking.** Resist the temptation to go off on tangents. You should do no more than 30 percent of the talking.

**5. Keep your reactions to yourself.** "Assute candidates," notes Half, "will be sensitive to nonvocal indications—your body language and facial expressions, for example—and adjust their answers accordingly."

### INTERVIEW DON'TS

**1. Don't break the law.** The Equal Employment Opportunity Commission frowns on questions directly or indirectly related to any of the following: religion, race or color, national origin, age, sex, marital or family status, handicaps, criminal records, and financial affairs.

**2. Don't oversell the position.** Emphasize the difficult and boring parts of the job. This way you'll weed out candidates who will throw in the towel as soon as the going gets tough.

### ENDING THE INTERVIEW

Subtly let the candidate know when time is nearly up: remove your glasses, look at your watch, mention another appointment, or say, "This will be my last question."

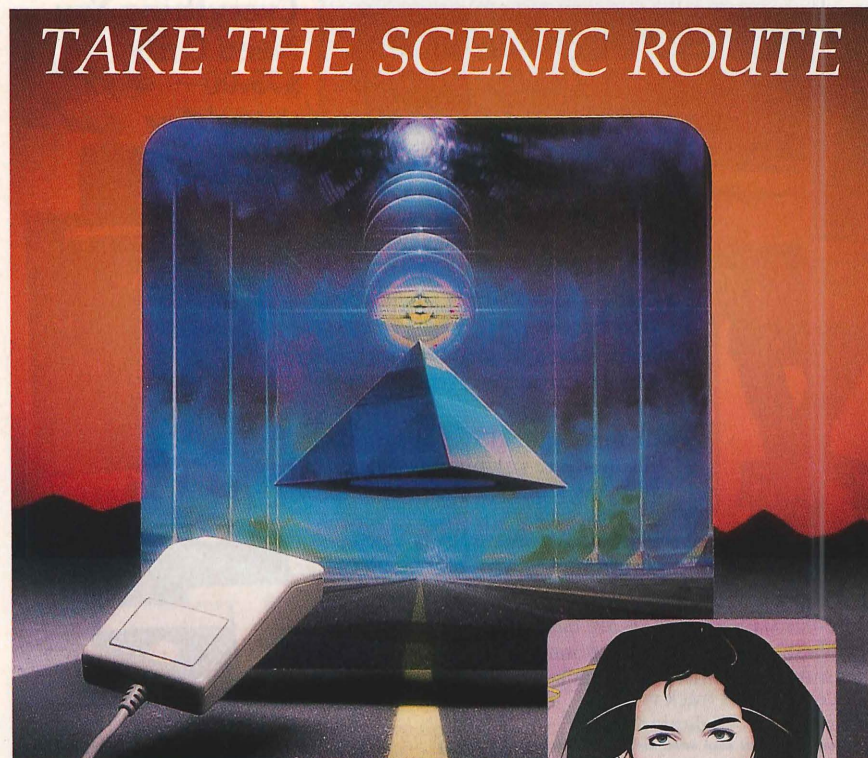
Generally, your impression of the candidate will help you set the final tone. Half says, "If the candidate is somebody you definitely want, make sure he or she knows you're interested. If the person is a maybe, say you're interested but want time to think it over. If the person is a no, be polite but noncommittal. 'You have a fine record,' you might say, 'but I have other people to see. I'll let you know.'"

### CHECK REFERENCES

Half acknowledges that in today's litigious society, obtaining a candid reference can be difficult; employers may fear their comments could land them in court. Nonetheless, if you fail to check references, you're at a distinct disadvantage. What to do? "Network," says Half. "Telephone every reference, clarify any problems you perceive with the candidate, and then ask to speak with someone else familiar with the candidate. Eventually you'll get an accurate picture." ■

### RESOURCES

The following Robert Half booklets are available free from any Robert Half International office: "How to Check References When References Are Hard to Check," "How to Hire Smart," "How to Keep Your Best People," and "How to Get Your Employees to Do What They're Supposed to Do."



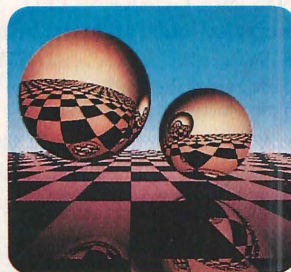
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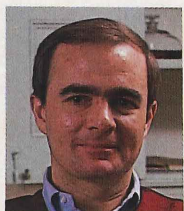
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CIRCLE READER SERVICE 27



# The Knowledge Index: A Low-Cost, Easy-to-Use, On-Line Database

BY ALFRED GLOSSBRENNER



Is there *one* on-line information system all businesspeople and professionals should subscribe to? Probably not. Everything depends on the kind of information you need. But one system that deserves strong consideration is Dialog's Knowledge Index.

KI, as it is called, has been available since 1982, but it is not well known. It doesn't offer games, chat, shopping, public-domain software, or any of the other features associated with such popular systems as CompuServe, Prodigy, GEnie, and Delphi. What KI offers is, quite simply, high-octane information packaged and priced for untrained researchers.

That is enormously significant. For when it comes to information, today's businesspeople and professionals are like thirsty explorers in a cave of ice: The water they need is all around them, but not in the form they can use.

Even if you happened to know that the *Harvard Business Review*, Standard & Poor's Corporate Descriptions, *Biotechnology Abstracts*, and scores of other databases are available on-line—and most people don't—you'd have a hard time finding the information you need and getting it onto your screen.

Major-league databases like those and the on-line systems that offer them—systems like Dialog, BRS, and Orbit—are not designed for untrained end users. Their commands are complex; on-line help functions are spare; and often there are no menus to guide you. Connect-time charges range from \$35 to \$300 an hour plus telecommunications costs, with additional charges tied to the amount of information you choose to display. Credit cards are not accepted; all billing is by direct invoice or deposit account.

ALFRED GLOSSBRENNER is the author of *Alfred Glossbrenner's Master Guide to FREE Software for IBMs and Compatible Computers, How to Look It Up Online, and the newly revised Complete Handbook of Personal Computer Communications—Third Edition. He can be reached on CompuServe (ID: 70065,745) or MCI Mail (ID: AGLOSSBRENNER).*

Each of these options has its place. But for many, the Knowledge Index presents a very attractive third alternative. You'll still have to learn a bit about on-line searching, but KI makes it easy. You may use either menus or the system's simplified command language. You can get by with just five command words: And, Or, Not, Find, and Display.

## KNOWLEDGE INDEX COSTS

The costs are easy to take too. A one-time subscription fee of \$35 covers account setup, your manual, and the quarterly KI newsletter. Connect time is billed to your credit

**When it comes to business information, the businessperson is like a thirsty explorer in a cave of ice.**

card at \$24 an hour. That covers everything. There are no display charges and no extra charges for telecommunications. Nor is there a monthly minimum or any other kind of continuing obligation. As long as you keep your credit-card information up-to-date, KI will be there for you whenever you need it.

The one catch is that the Knowledge Index is available evenings only—starting at 6 p.m. your local time—and on weekends. This may be inconvenient. But I know many professional information brokers who feel KI is such a good value that they willingly postpone their searches until evening.

The Knowledge Index has another drawback that may or may not be significant to you. Although additional databases are added regularly, the system currently offers only about 75 of the nearly 400 databases available through its parent, Dialog.

The only question that really matters is whether or not the databases that are available are likely to be useful to you and your

business. And the only way to find out is to contact Dialog.

## KNOWLEDGE INDEX DATABASES

I can give you a quick preview, however: In addition to the databases mentioned above, you will find four databases devoted to computer topics, including one listing every software package produced in the United States. Six databases offer exhaustive coverage of chemicals and pharmaceuticals. Inspec (which includes electrical engineering, physics, and electronics information) is available, as is the National Technical Information Service (NTIS). Standard & Poor's has at least four databases on KI. There's a database that covers more than 200 economic journals and another that covers more than 500 publications dealing with banking, advertising and marketing, insurance, real estate, management, and other business topics. Another database focuses on 1,700 newspapers, and still another carries 432 periodicals, from *American Heritage* to *Yachting*.

With the *Books In Print* database, you can search for any book on any topic. With *Marquis Who's Who*, you can search for people. Medline can search through the exhaustive literature summaries prepared by the National Library of Medicine. There are databases devoted to law, history, art, literature, psychology, sociology, religion, sports, and the cinema.

## THE \$59 EXPERIMENT

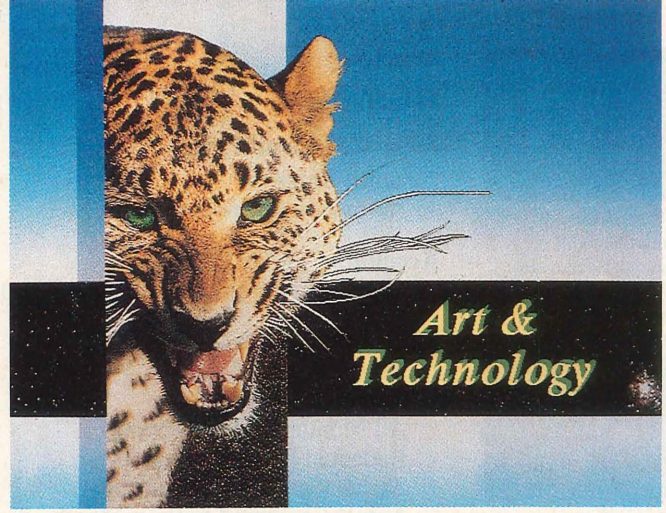
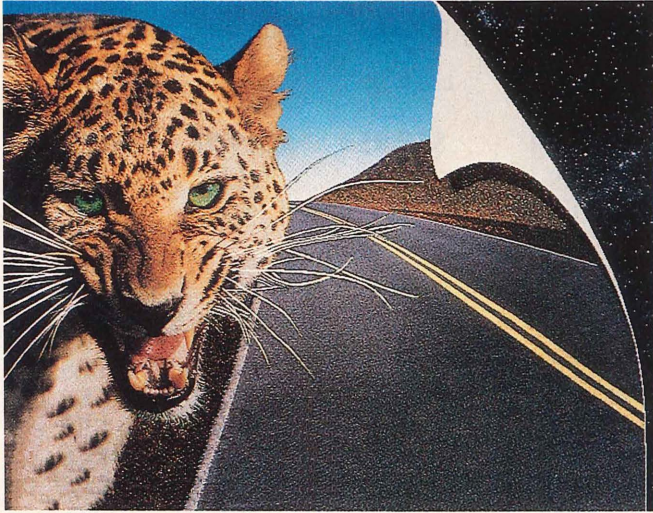
If all this sounds intriguing, I suggest you spend \$59 on a little experiment. Get a subscription to Knowledge Index for \$35 and explore for an hour for \$24. If you conclude that Knowledge Index will not be useful in your field, you need never sign on again. It's more likely, however, that you'll discover a system that has so much to offer and is so easy to use you won't ever want to be without it. ■

## COMPANY INFORMATION

Knowledge Index  
Dialog Information Services, Inc.  
3460 Hillview Ave.  
Palo Alto, CA 94304  
(800) 334-2564  
(415) 858-2700

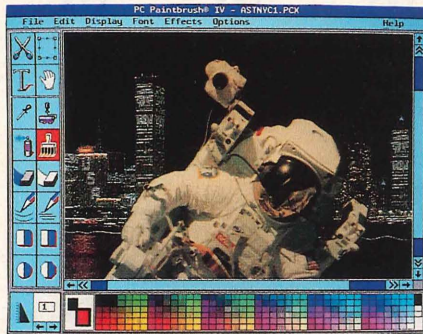


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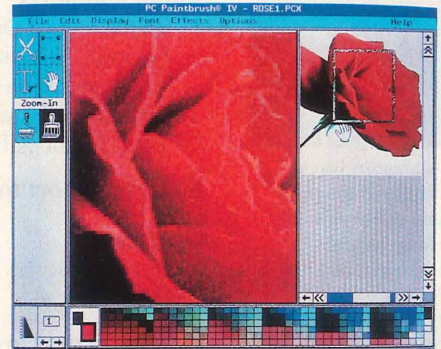
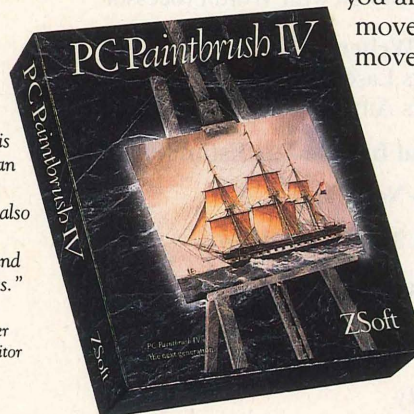


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CIRCLE READER SERVICE 58



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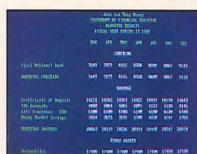
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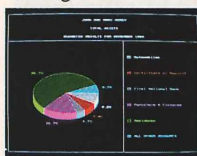
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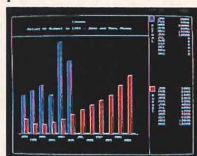
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## Manufacturer

## Suggested Retail Price

## Account Balancer

Automatic Error Finder

## Accounts Can Be Added

When Entering Transactions (Data)

## Financial Reports

Actual Financial Results

Month and Year to Date

All Months On One Report

Budgeted Financial Results

Actual Compared to Budget

Actual Compared to Prior Month

General Ledger Report

Accountant's Trial Balance

Net Worth Computation

## Inquiry Reports

Check and/or Deposit Register

Account Analysis

All Transactions with Party

Cash Requirements Forecast

Aged Invoices Payable

## Reports Export to Lotus or Quattro

## Graphics

Bar Charts

Pie Charts

## Optional Password Protection

## Financial Calculator

Prints Amortization Schedules

Prints Accumulation Schedules

## Mail List Manager

Prints Address Labels and Index Cards

Prints Telephone Directory

Mail Merge with Word Processor

## Check Writer

Prints Laser Checks

Prints Any Pin-Feed Check

## Personal Income Tax Estimator

## Pop-up Note Pad

## Pop-up Math Calculator

## Optional Canadian Features

International Dating

International Terminology

## Capacity

Total Number of Accounts Per File

Total Number of Open Transactions

## MONEYCOUNTS\*

6.0

Parsons  
Technology

**\$35.00**

**YES**

**YES**

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## QUICKEN\*

3.0

Intuit, Inc.

**\$59.95**

**YES**

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**255**

**65,535**

## MANAGING YOUR MONEY\*

5.0

MECA  
Ventures, Inc.

**\$219.98**

**YES**

**NO**

**YES**

**YES**

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**NO**

**YES**

**YES**

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**YES**

**YES**

**YES**

**YES**

**YES**

**YES**

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**NO**

**\*\***

**\*\***

**120**

**4,000**

## DOLLARS & SENSE\*

3.1

Monogram  
Software, Inc.

**\$179.95**

**YES**

**NO**

**NO**

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**NO**

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**NO**

**NO**



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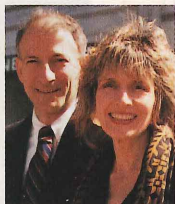
MONEYCOUNTS 6.0 requires an IBM\*/Tandy\*/Compaq\* or compatible computer, 384K or more RAM, DOS 2.0 or higher, 2 disk drives (or a hard disk). Works with all printers and monitors. Add \$10 shipping/handling outside North America. Iowa residents, please add 4% sales tax.

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# Call-Waiting Etiquette

BY PAUL & SARAH EDWARDS



Since incoming calls are the lifeblood of most businesses, call waiting has become a widely used telephone feature. It enables you to get two phone calls on a single line simultaneously.

You probably know how it works: When you're talking on the phone, a special tone alerts you to an incoming call. You then put the person you're speaking with on hold and answer the incoming call.

In many ways, call waiting is ideal. But judging from the controversy it generates on our Working from Home Forum on CompuServe, call waiting is a pain in the neck to some and an insult to others. We've heard comments like "Call waiting is organized rudeness." Others complain it's a dead giveaway that you don't have a staff. And, of course, many find it irritating when the second call interrupts an important conversation—particularly if several call-waiting interruptions occur in the course of one conversation.

Weighing the pros and cons, however, we are solidly in favor of call waiting. Both large and small companies use it, and it's no less disruptive than putting someone on hold to answer a second line. In fact, we've found that most people get back to us more quickly with call waiting than when they put us on hold.

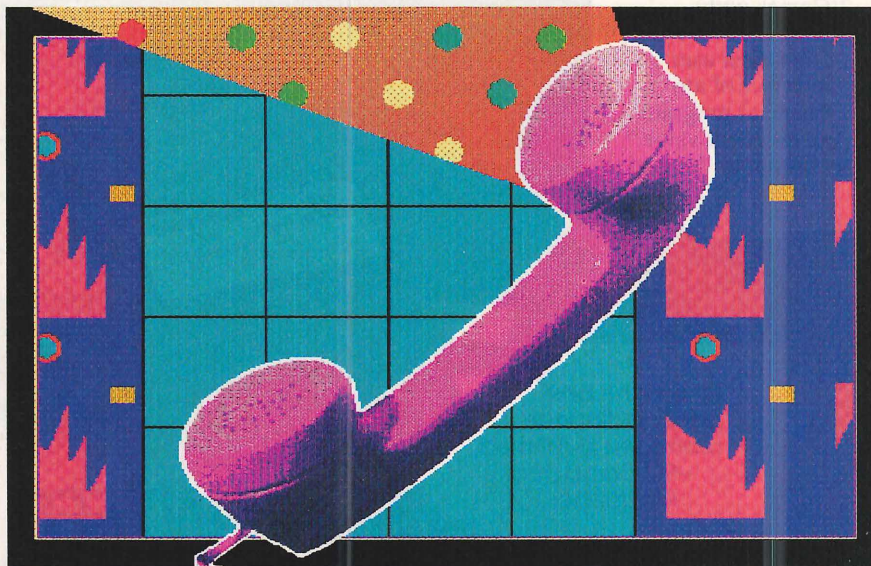
The answer to the call-waiting dilemma is to follow some simple rules of etiquette.

## CALL-WAITING TECHNIQUE

Don't ignore the call-waiting signal. The person you're talking with can hear it too, and leaving it unanswered sends a variety of confusing messages as to the value you place on communications.

Interrupt the call in progress gracefully. Don't say, "Hold on while I see who's calling." Give your caller the feeling that he or she is important by saying something like, "Excuse me. I have another call coming in. I'll be right back." Or ask your caller's permission to take the call by saying, "Do you mind if I take this call? I'll be right back."

PAUL & SARAH EDWARDS are the authors of *Working from Home, Everything You Need to Know to Live and Work Under the Same Roof*. They also operate the *Working from Home Forum on CompuServe (GO WORK)*.



**Judging by the controversy it generates, call waiting is a pain in the neck to some and an insult to others.**

Inform the incoming caller immediately that you are on another line. Either ask this caller to hold while you wrap up your other conversation or set up a convenient time to return his or her call. Return to the original caller in less than one minute.

When the incoming call clearly takes precedence over the conversation you've been having, explain the dilemma to the first caller. You might say, "I have a call coming in from Timbuktu from a party I've been trying to reach for days. Would you mind if I called you back in 10 minutes? I do want to finish our conversation."

If you have to interrupt a conversation more than once, apologize. Say something like, "I'm sorry for the interruption." In fact, mentioning it brings to the surface any resentment people may already have about call waiting.

Honesty, forthrightness, and concern seem to help make call waiting work.

## DISCONNECTING CALL WAITING

When you plan on conducting a business meeting by telephone or making a very sensitive call, you may want to disconnect call waiting (if that feature is available through your phone company). There are several

ways to do this. The most common is to press the asterisk on the telephone pad, followed by 70. On a rotary telephone, dial 1170.

This sequence comes in handy if you use a single telephone line for modem communications. (Call waiting can knock your modem off the line.) You can enter 1170 or \*70 into your automatic dialing sequence for calling an on-line service and thus disable call waiting. When you do so, be sure to enter several commas, which indicate dialing pauses, to allow time for the disabling to occur before the number is dialed. For example, the typed sequence might look like this: ATDT 70,,123-4567.

## FREE OFFER

The response to our offer for the Area Code Locator a few months ago was terrific. In fact, requests are still coming in. And we appreciate the many thoughtful notes. The response was so good that we're making another free offer. To receive our four-page pamphlet, "Twelve Keys to Saving Money on the Working from Home Forum and CompuServe," send a self-addressed stamped #10 envelope to P.O. Box 5172, Santa Monica, CA 90405. ■



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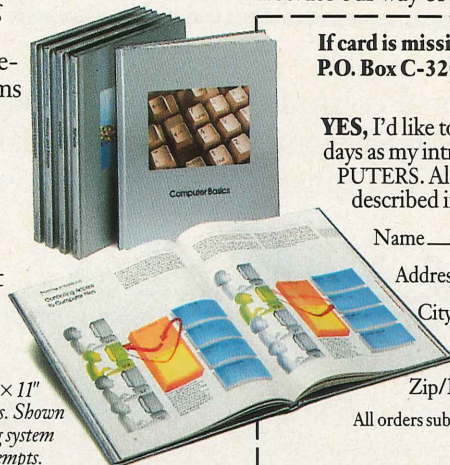
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CIRCLE READER SERVICE 65



# Computer Stars

*Looking for a New Computer?*

*Here's a Roundup of Three-Star and Four-Star MS-DOS and Macintosh Computers to Help You Make the Right Choice*

BY STEVEN C.M. CHEN AND NICK SULLIVAN

**T**he fourth quarter of the year—the busiest shopping season—is when individuals and companies do their most serious computer shopping. With this in mind, we have assembled a list of 18 highly rated computer systems reviewed in the magazine over the past year or so. We are recommending five new computers for home-office use as well. We have also devised a self-test to help you decide which type of computer you need and compiled a chart listing the features of each computer. And we backed all that up with a shopper's guide to help you put it all in perspective.

Choosing a computer can be pretty easy nowadays. With a few notable exceptions, all computers work well. The technical kinks were worked out long ago. On the other hand, choosing a computer today can be difficult since it's so hard to differentiate among the many reliable models. Often what sways the buyer is not the product, but the reliability of the manufacturer and the strength of its dealer network. In some cases, a buyer is looking for one particular feature that only a handful of computers offer.

All 23 computers presented here work well and are supported by reputable manufacturers. They were given three-star (very good) or four-star (excellent) ratings by HOME-OFFICE COMPUTING's reviewers. Where they differ most is in price and features. Some of these systems have room for five internal disk drives and six expansion cards; others have room for only two 3.5-inch drives and three expansion cards. Some have built-in mouse ports; others don't.

## AVAILABILITY AND SUPPORT

When it comes to computer systems, there's not always a direct correlation between price and features. As in the stock market, blue-chip brand names command



higher prices because the consumer views those companies as being more stable than others. Also it's often easier to get support service for well-known brands. For in-

stance, Compaq, Epson, IBM, Tandy, and Zenith computers are priced higher, feature for feature, than Commodore, Dell, or Hyundai computers. Is the extra price worth

STEVEN C.M. CHEN is managing technical editor of HOME-OFFICE COMPUTING, and NICK SULLIVAN is a senior editor.



it? That call is really up to the shopper.

For comparison, we have assumed that all the MS-DOS computers in this guide come equipped with a 40MB hard-disk drive (*not all do; see chart for details*), a VGA color monitor, and a copy of MS-DOS. We've also assumed that each Macintosh unit listed here comes with a 40MB hard-disk drive. On the Macintosh IIcx, which does not have a built-in monitor, we've configured our

recommended system with a color monitor.

In the capsule reviews that follow, we have tried to emphasize what sets one computer apart from another. Thus, we don't mention the feel of a keyboard, the look of a monitor, or the strength of the documentation unless it stands out as unusually good or bad. If there is no mention of a specific feature, you can assume that it is at least up to snuff. If a computer is roughly the size of

an IBM PC AT, we call it "large." Those sized more like the IBM PS/2 we call "small."

We have divided our recommendations into four broad categories: 80286-based, 80386SX-based, 80386-based, and Macintosh. Within each section, the machines are listed in order of speed, from slowest to fastest. Computers of equal speeds are listed alphabetically.

## 80286-based Computers

Computers based on the Intel 80286 microprocessor (AT compatibles) are now a de facto standard in both corporate and home offices. AT compatibles run most MS-DOS software and much OS/2 software, although there's a growing list of 386-specific MS-DOS programs.

The following 286 computers are suited for a wide range of business tasks, with the exception of making intense numerical calculations, sorting huge databases, or work-

ing with complex graphics applications. They are sold with clock speeds of 8 MHz, 10 MHz, and 12 MHz (*see explanation of clock speeds in "A Shopper's Guide to Specifications"*). The 12-MHz models offer the best value and make up the majority of the computers presented in this category. Most 8- and 10-MHz models are older designs, and are bargains if your application requirements are mostly text-based.

There are a few 16-MHz and 20-MHz

units available, most notably the Dell 220, but these machines are now facing stiff competition from the 16-MHz 386SX-based computers. The 20-MHz 286 still offers a \$500 to \$1,000 cost advantage over the 386SX-based computer, but that price gap is expected to close soon. In our judgment, because the 386SX chip is capable of running the generation of software just coming on the market, a 386SX-based computer is a better long-term buy.

### AST Bravo/286 Model 45

**SUGGESTED RETAIL PRICE:** \$3,389

**SPEED:** 8 MHz

**SIZE:** Small

**RATING:** ★ ★ ★

**REVIEWED:** August 1989

AST Research initially gained its reputation as a manufacturer of high-quality add-on cards; it has recently made a name as a manufacturer of high-performance computers. The Bravo is the least expensive and also the slowest computer in the AST line, but its 8-MHz (with zero wait states) clock speed is adequate for text-based applications. It has the same excellent keyboard as the more expensive AST computers. The slim user's manual has enough information and illustrations to get you started, but not much more. A Quick Installation card is provided for those too impatient to read through the entire user's manual. The com-



puter is trim and has only three available expansion slots.



### Tandy 3000 NL

**SUGGESTED RETAIL PRICE:** \$4,177

**SPEED:** 10 MHz

**SIZE:** Large

**RATING:** ★ ★ ★

**REVIEWED:** November 1988

Like all other Tandy MS-DOS computers, the 3000 NL is well made, reliable, and backed by good technical support. Tandy's dealer network is the most widespread of any computer manufacturer. However, the buyer pays a bit extra for this convenience. As part of the otherwise standard setup procedure, the Tandy 3000's hard-disk drive can be configured with a nifty program (supplied with Tandy DOS 3.3) that takes care of disk formatting. A 3.5-inch drive comes standard, and a 5.25-inch drive can be added.

### Hyundai Super-286C

**SUGGESTED RETAIL PRICE:** \$3,035

**SPEED:** 10 MHz

**SIZE:** Small

**RATING:** ★ ★ ★

**REVIEWED:** December 1988

Hyundai, the Korean manufacturer best known for its economy cars, is gaining a reputation as a reliable computer manufacturer. The Hyundai Super-286C is a well-made computer that is big enough to accommodate four expansion cards and three 5.25-inch disk drives. The user's manual is written in stilted, frequently ungrammatical



English, but it is still clear. The 18-month warranty is generous.





## Compaq Deskpro 286e Model 40

**SUGGESTED RETAIL PRICE:** \$4,418

**SPEED:** 12 MHz

**SIZE:** Small

**RATING:** ★ ★ ★

**REVIEWED:** August 1989

The Deskpro 286e is a well-designed, well-built computer, backed by a well-respected company. The unit boasts a small footprint, yet it has five open expansion slots (the VGA adapter is built into the motherboard). That's one or two more than most other small-footprint computers. A mouse port is included with the unit—an extra not offered by all computers in this class. Bundled configuration software makes setup simple.

## Hyundai Super-286N

**SUGGESTED RETAIL PRICE:** \$3,385

**SPEED:** 12 MHz

**SIZE:** Small

**RATING:** ★ ★ ★

The 286N, Hyundai's latest entry in the computer market, is similar in size to the 286C (see review above), but it offers several improvements. It's about 25 percent faster than the 286C, and it's also roomier, with space for up to four disk drives. The microprocessor is set on an expansion card instead of on the system board, which theoretically means you can update it. However, the company hasn't announced any plans to introduce a replacement card for upgrading.



## Epson Equity III +

**SUGGESTED RETAIL PRICE:** \$4,598

**SPEED:** 12 MHz

**SIZE:** Large

**RATING:** ★ ★ ★

**REVIEWED:** November 1988

Epson, a leader in the dot-matrix printer market, is also among the top five sellers of MS-DOS computers. The Equity III+ is a large and solidly built computer designed for relentless expansion. It boasts nine full-size expansion slots (six are available) and room for five half-height drives. The computer is so big, in fact, that it can easily take over a small desk. The superb concave keyboard makes for easy typing. If you don't



need that many free expansion slots or don't have a large desk, consider the smaller Equity II+ system.

## ★ EDITORS' PICK ★

## Commodore PC40-III

**SUGGESTED RETAIL PRICE:** \$2,595†

**SPEED:** 12 MHz

**SIZE:** Large

**RATING:** ★ ★ ★ ★

**REVIEWED:** August 1989

† With monochrome monitor; a color monitor costs about \$300 more.

Commodore, which made its name in the United States as the maker of the Commodore 64 and later the Amiga, has been selling MS-DOS computers in Europe for several years. Recently the company introduced MS-DOS computers to the United States. The Commodore PC40-III is a respectable computer that sells at a very competitive price. It includes a built-in program called AUTOCONFIG, which automatically recognizes most expansion cards and config-



ures the computer accordingly. For most users, the Operations Guide should offer sufficient support, but it does lack an index. Commodore does not sell a VGA color monitor; however, you can buy one from a third-party manufacturer.

## ★ EDITORS' PICK ★

## Headstart III

**SUGGESTED RETAIL PRICE:** \$3,399

**SPEED:** 12 MHz

**SIZE:** Small

**RATING:** ★ ★ ★ ★

**REVIEWED:** August 1989

Headstart (formerly Vendex) Technologies offers a complete computer package with both 3.5-inch and 5.25-inch disk drives and a wide assortment of software (see chart). *Framework II*, an integrated package that includes a spreadsheet, database, and word processor, is certainly enough to get a new owner up and working. The computer comes with a mouse. Documentation, though hefty, is clear and illustrative. Headstart offers a generous 18-month warranty and also provides for three months of on-site service through Harris Data Communications (if you are within 100 miles of one of Harris's 95 support centers). Headstart is the

first non-mail-order vendor to offer such on-site service. All in all, the Headstart III is an uncommonly good buy.





# Zenith Z-286 LP/12

SUGGESTED RETAIL PRICE: \$4,598

SPEED: 12 MHz

SIZE: Small

RATING: ★ ★ ★

The Zenith 286 LP/12 is an attractive computer, with the smallest footprint of any AT compatible presented here. In fact, the CPU's footprint is not much larger than the



base of the monitor. The trade-off for this compactness is that there are only two expansion slots available. Like computers in the IBM PS/2 line, the Zenith's compact casing can hold only 3.5-inch disk drives, though you can add an external 5.25-inch drive. The Zenith keyboard is heavy enough to put a dent in your lap, but it's a superb typing device. Although Zenith's list prices are high, dealers generally offer good discounts.

## Which Computer Is Best For You? Take This Self-Test

To help you figure out which computer is best for you and your business, we've devised this simple test. Answer the six questions that follow. If most of your responses fall into the first column, you probably need a Productivity Booster, our classification for a Macintosh SE or an 8- to 12-MHz 286-based IBM-compatible. If your answers indicate that you need a Workhorse (the second column), a Mac SE, SE/30, faster 286, or 386SX is probably your best bet. And so on. If the right choice isn't apparent, give more weight to the first three questions as you decide on a purchase.

PRODUCTIVITY BOOSTER	WORKHORSE	SPEED DEMON	STATE-OF-THE-ART
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### IBM PC AND COMPATIBLES

8-, 10-, or 12-MHz 286-based	12-MHz 286-based or 16-MHz 386SX-based	16-MHz 386SX-based or 20-MHz 386-based	20- or 25-MHz 386-based
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### MACINTOSH

Mac SE	Mac SE or Mac SE/30	Mac SE/30 or Mac IIfx	Mac IIfx
--------	---------------------	-----------------------	----------

### 1. How will you use the computer?

Text Applications	Light Numerical Applications	Heavy Numerical and	Graphics Applications
Word Processing (text only) Telecommunicating Small Database <sup>1</sup>	Accounting Programming Financial Planning Number Crunching Statistical Analysis	Word Processing (text and graphics) Large Database <sup>2</sup> Financial Planning Number Crunching Statistical Analysis	CAD/CAM Desktop Publishing Desktop Presentations

### 2. Do you plan to use MultiFinder, OS/2, Windows/386, or multitasking software?

No	No	Yes	Yes
----	----	-----	-----

### 3. What kind of business growth do you expect?

Little growth	Growth within three years	Substantial growth within two years	Substantial growth within one year
---------------	---------------------------	-------------------------------------	------------------------------------

### 4. What's your computing level?

Beginner	Intermediate	Intermediate	Power User
----------	--------------	--------------	------------

### 5. How much time do you plan to spend computing?

A few hours a week	Up to two hours a day	About three hours a day	More than four hours a day
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### 6. How much money are you willing to spend on a computer system?

Up to \$2,500	Up to \$4,500	Up to \$7,000	Up to \$10,000
---------------	---------------	---------------	----------------

<sup>1</sup>Fewer than 500 records and 15 fields. <sup>2</sup>More than 1,000 records and 15 fields.



# 386SX-based Computers

An 80386SX chip, part of the 80386 family, is basically a slower, stripped-down version of an 80386 chip. Even though an 80386SX chip has a 16-bit data path instead of 32-bit, a 386SX-based computer can run all 386-specific software. It multitasks more effi-

ciently than 286 models. Because SX-based machines are also faster than 286s, they are better suited to run OS/2 and *Presentation Manager*. The clock speed of the 386SX chip is rated at 16 MHz; however, other factors allow SX-based computers to run faster

than 20-MHz 286 computers. As the prices drop, 386SX-based computers will become hotter and hotter commodities in the PC market. These machines are suited for users who need 386 power, but don't want to spend the extra \$1,000 to \$2,000.

## ★ EDITORS' PICK ★

### Compaq Deskpro 386s Model 40

**SUGGESTED RETAIL PRICE:** \$5,018

**SPEED:** 16 MHz

**SIZE:** Small

**RATING:** ★ ★ ★ ★

**REVIEWED:** March 1989

Compaq was the first to market a 386SX computer (they did it in 1988). Compared to

previous Compaq models, the Deskpro 386s Model 40 sports a new design and a smaller footprint; it's very similar to the Compaq Deskpro 286/286e. There's room for a total of five disk drives (up to two hard-disk drives, two floppy-disk drives, and a tape drive). The Model 40 includes a mouse port. Screen scrolling and redrawing is swift, and the Compaq VGA color monitor (\$699) is one of the sharpest on the market. This model will cost more than other 386SX machines (even more than the IBM PS/2 55SX); but you are sure to receive high-quality equipment and excellent support.



### IBM PS/2 Model 55SX

**SUGGESTED RETAIL PRICE:** \$4,638

**SPEED:** 16 MHz

**SIZE:** Small

**RATING:** ★ ★ ★

The Model 55SX is IBM's most competitively priced computer to date. In fact, it's priced a step below the Compaq 386s and several other SX computers. Like all other



computers in the PS/2 line, the Model 55SX uses only 3.5-inch disk drives. You can, however, add an external 5.25-inch disk drive through a port in the back of the system unit. Like most other PS/2 machines, the 55SX requires MCA (Micro-Channel Architecture) expansion cards, which are slightly more expensive than the standard XT and AT cards. The attractive 55SX is extremely compact and features an excellent keyboard. Its hard-disk drive, however, is one of the slowest on our chart—definitely a drawback.

## 386-based Computers

Because of its internal design and processing speed, the 386-based computer is the machine best suited for running OS/2 and *Presentation Manager*. The speed of the 386 also makes it ideal for any graphics-oriented work, such as desktop publishing. In addition, if your business is computer-dependent, the added speed of a 386 will

save you money over time, thus justifying the higher price tag.

Four clock speeds are available: 16, 20, 25, and 33 MHz. A 20-MHz 386, which delivers the most power for the dollar, is currently the most popular 386-based computer on the market. The 25-MHz models offer about a 25 percent increase in process-

ing speed, and the 33-MHz models about a 70 percent increase. Of course, these faster models command significantly higher prices. Prices of 386-based computers are expected to drop early next year when next-generation i486-based computers begin to hit the market.

### AST Premium 386/C Model 340

**SUGGESTED RETAIL PRICE:** \$6,489

**SPEED:** 20 MHz

**SIZE:** Large

**RATING:** ★ ★ ★

**REVIEWED:** August 1989

The AST Premium 386/C Model 340 is big, solidly built, fast, and expandable. The menu-based installation software provided makes system configuration a snap. Clock-

speed status lights located on the front panel make running the Model 340 like driving a sports car, although they have no practical use. The Model 340 has two proprietary Smartslots that accept AST-designed expansion cards, which provide higher performance than standard AT cards. However, AST markets only a few Smartslot cards. Both slots are compatible with AT-type expansion (16-bit) cards.





## Compaq 386/20e Model 40

**SUGGESTED RETAIL PRICE:** \$6,918

**SPEED:** 20 MHz

**SIZE:** Large

**RATING:** ★ ★ ★ ★

**REVIEWED:** June 1989

Compaq introduced the first 386 computers in 1986 and has maintained leadership in the field ever since. The Compaq 386/20e is one



of those products that just begs you to buy it. It looks great, feels great, and performs flawlessly. It is, however, more expensive than virtually any comparably equipped computer. Even though the system has a small footprint, there's room for two floppy-disk drives, one tape drive, and two hard-disk drives. Four AT type expansion slots and one 32-bit memory slot are available. Extensive and easy-to-use utility software is included with the system. The documentation is clearly written and includes illustrations. A minor fault with the computer is that the fan is somewhat louder than other Compaq computers.

# Shopper's Guide to Specifications

## (Almost) Everything You Need to Know About Buying a Computer

When you study charts full of system specifications or read manufacturers' glossy brochures, it's sometimes difficult to keep details in perspective. How fast is fast? How much storage space is more than enough? Is a 12-

month warranty unusually good or just average? To help you analyze the information you collect as you shop, we've compiled this guide to various features on both MS-DOS and Macintosh computers.

### IBM PC AND COMPATIBLES

### MACINTOSH

#### MICROPROCESSOR

Six Intel microprocessors are used in desktop MS-DOS computers: 8088, 8086, 80286, 80386SX, 80386, and i486. Most business users opt for computers with the 80286 or 80386 microprocessors. The 8088 and 8086 chips are slow and won't run OS/2; i486-based computers are not yet on the market and will be expensive when they first hit the stores in a few weeks.

Three Motorola microprocessors are used in Macintosh computers: 68000, 68020, and 68030. The 68030, found in the Mac SE/30 and Mac IIfx, is preferred for business applications.

#### CLOCK SPEED

The same rule applies to both families of computers: The higher the clock speed (measured in megahertz, MHz), the faster the computer operates. For basic text-oriented applications, an 8-MHz 286 (or Mac SE) will suffice; for graphics-oriented work, the speed of a 20-MHz 386 (or Mac SE/30) is

preferable. However, because of different operating systems, microprocessors, and other factors, clock speeds on MS-DOS and Macintosh computers aren't directly comparable.

#### DISPLAY SYSTEM

For both monochrome and color monitors the standard display system is VGA (Video Graphics Array). Many computers now come with VGA capability on a card or built into the motherboard. A monochrome VGA monitor, which costs about \$300 less than a color VGA monitor, can display 64 shades of gray to simulate color graphics. A VGA color monitor can display up to 256 colors at once. Avoid EGA and CGA color cards and displays; the low prices may appear to be a bargain, but in the long run, neither is a good buy because, more and more, sophisticated applications demand VGA.

For the compact line (SE and SE/30) the nine-inch black-and-white monitor is part of the system unit. For the Mac IIs, you need to add a video card (except the Mac IIfx, previewed in this month's Up Front section, page 12) and a monitor, which give you much more display flexibility. The number of colors available is determined by the type of video card you install. For example, an 8-bit color card (about \$500) can support 256 colors, and a 24-bit card (\$1,000 and up) can support as many as 16 million colors.

#### MEMORY EXPANSION

Most MS-DOS computers are sold with 1MB of RAM, except for the 25-MHz 386 computers, where 2MB is considered the standard. If you purchase OS/2 with your computer, however, you'll need anywhere from 2MB to 4MB of memory. You can expand the memory on most MS-DOS systems to 13MB or more.

You can add more memory by installing RAM chips on the motherboard, except when the motherboard is fully populated. RAM chips are available in different packaging (SIMM, SIP, or DIP), different densities (64K, 256K, 1MB, or 2MB), and different speeds (measured in nanoseconds—120 ns, 100 ns, 80 ns, and so on). If there's no room on the motherboard, you can add memory expansion cards. Adding 1MB costs about \$200.

The standard memory is 1MB. The SE can be expanded up to 4MB; the SE/30 and IIs can be expanded to 8MB. To make use of MultiFinder, most users find that they need at least 2MB and prefer 4MB. You can add additional memory by adding SIMMs (Single In-Line Memory Modules) to the motherboard. SIMMs are available in different densities (256K or 1MB) and different speeds (measured in nanoseconds—120 ns, 100 ns, 80 ns, and so on). Adding 1MB of RAM costs about \$200. You can install the additional memory on a Mac IIfx yourself. However, on a Mac SE or SE/30, upgrades should be made only by a Macintosh dealer.



## IBM PC AND COMPATIBLES

## MACINTOSH

### FLOPPY-DISK DRIVES

Both 3.5- and 5.25-inch drives are available, although the trend is toward the smaller drives. Two types of 5.25-inch drives are available: 360K or 1.2MB; 3.5-inch drives are available in 720K or 1.44MB. On most computers (286-based, 386SX-based, and 386-based), the 5.25-inch 1.2MB floppy drive is the standard. These high-density (1.2MB or 1.44MB) drives can usually read, write, and format lower-density disks.

Only 3.5-inch drives are available for the Macintosh. The Floppy Disk High Density drive (FDHD, the Superdrive) is now the standard Macintosh floppy drive. It stores 1.4MB and can read MS-DOS, OS/2, and Apple II (ProDOS) 3.5-inch disks. The Superdrive can read, write, and format the 800K disk used on the Mac Plus, SE, and II.

### HARD-DISK DRIVES

A 40MB hard-disk drive is standard on most MS-DOS computers today, and, for most users, it's enough. As applications move from text-based to graphics-based, a higher-capacity hard-disk drive becomes more important. If you use or plan to use OS/2 or *Windows/386* or run desktop-publishing operations, seriously consider an 80MB (or larger) drive. A higher-capacity drive is generally a better money-for-storage buy. Two new hard-disk drives and controllers for them are used in the faster 386 computers: the ESDI (Enhanced Small Device Interface) and the SCSI (Small Computer System Interface). Both are two to five times faster than the standard drives found in most PCs.

Macintosh computers are still sold with 20MB hard-disk drives. However, 40MB would be a better minimum, especially since Mac applications are usually larger than DOS applications. An 80MB hard-disk drive (or larger) is highly recommended for anyone running desktop-publishing or presentation-graphics software. In the compact Macs, external hard-disk drives are often used; they fit neatly under the CPU.

### PORTS

Today, almost all computers include at least one parallel and one serial port. Several models offer either a second serial port or mouse port. As the mouse becomes the preferred input device, especially for graphics applications, you may want to look for a mouse port. A VGA video port is also increasingly popular as standard equipment.

You can find the following ports at the back of every Mac: two ADBs (Apple Desktop Buses), for connecting your keyboard and mouse; one SCSI, for an external hard-disk drive, tape drive, or CD-ROM; two serial ports, for a printer and modem; one sound port, for an external speaker. Some Macs also include a connector for an external floppy-disk drive.

### AVAILABLE EXPANSION SLOTS

The more available expansion slots your computer has, the better—though you may not need them right away. Since so many ports are built in to the motherboard these days, most users won't need seven or eight slots. For an average user, three or four slots, which can be used for an internal modem, a card for a full-page display monitor, or a controller for a CD-ROM drive, for example, should be plenty.

On the compact line, only one slot is available, and it's not easy to get to. It requires the skill of a trained technician. With the Mac IIcx, two slots are available (one slot is for the video card), and it's relatively easy to install any expansion cards yourself.

### WARRANTY

A one-year warranty is the industry standard, although some manufacturers, especially new ones looking for an edge, now offer 18-month warranties. On-site service, which is new and exciting for computer users, is provided by many mail-order companies.

Apple offers only a three-month warranty.

### SOFTWARE

Most computers are sold with MS-DOS, but some aren't. Choose either version 3.3 or 4.01; the latter provides a DOS shell that makes many DOS functions easier to use. Almost all systems come with system-diagnostic and system-setup software. Many manufacturers offer the system-setup software in ROM for ease of use.

Most Macintosh computers come with System 6.0.3, the basic operating system, and MultiFinder, which allows you to open and run several applications at once. *HyperCard* is also included.

### MATH COPROCESSOR

For each type of microprocessor, there is a corresponding math coprocessor. For example, the 80287 is the coprocessor used with 80286 computers. The addition of an Intel math coprocessor (\$200 to \$400) can speed up some computer operations (such as numerical calculations or graphics processing) 10-fold. Weitek coprocessors (\$1,000 to \$2,000), designed primarily for engineering applications, can speed up applications 50 times.

On the Mac SE/30 and IIcx, the Motorola 68882 math coprocessor is included. It greatly improves system performance, especially in generating graphics and redrawing screens. You cannot add the coprocessor to other Macs unless you add an expansion card that has room for a math coprocessor.



## ★ EDITORS' PICK ★

### CompuAdd 320

**SUGGESTED RETAIL PRICE:** \$3,380

**SPEED:** 20 MHz

**SIZE:** Large

**RATING:** ★ ★ ★ ★

**REVIEWED:** October 1989

The CompuAdd 320 (formerly the 386/20) is offered by a reliable mail-order company that has grown from merely selling computers to designing and building them. The computer comes with *Integrator*, a set of desktop accessories that includes a calculator, card file, appointment calendar, text editor, file manager, and *PC-FullBak* (a hard-disk backup program). Since CompuAdd sells a complete line of computer products, your options for assembling a customized system are extensive.



## ★ EDITORS' PICK ★

### Dell System 310

**SUGGESTED RETAIL PRICE:** \$4,219

**SPEED:** 20 MHz

**SIZE:** Large

**RATING:** ★ ★ ★ ★

**REVIEWED:** October 1989

The Dell System 310, sold through the mail by its manufacturer, has a polished look and feel. The software, hardware, and documentation are extremely well integrated—the overall package is outstanding. The start-up and troubleshooting manuals are beautifully illustrated: Dell anticipates any questions you might have about any part of the computer. A supplementary disk-based tutorial



teaches you how to use your computer. Another program, *Dell System Analyzer*, gives you a menu-driven set of utilities for setting up and testing the unit. The customer support and on-site service (included in the sales price) are impeccable.

### IBM Model 70-121

**SUGGESTED RETAIL PRICE:** \$8,738

**SPEED:** 20 MHz

**SIZE:** Small

**RATING:** ★ ★ ★

**REVIEWED:** June 1989

The IBM Model 70-121, which is sold with a 120MB hard-disk drive, is clearly designed for users who need a lot of storage. Despite this large storage capacity, the computer itself is fairly small. Many interfaces are built in, and there are only three available expansion slots. Like other PS/2 models, the Model 70-121 comes with a 3.5-inch disk drive, though you can connect an external 5.25-inch drive. Also, like most other PS/2 models, the unit accepts only MCA (MicroChannel Architecture) expansion cards rather than the industry-standard XT and AT cards. The computer automati-



cally determines what kind of expansion cards are installed and configures itself appropriately.



### AST Premium 386/25 Model 90

**SUGGESTED RETAIL PRICE:** \$8,489

**SPEED:** 25 MHz

**SIZE:** Large

**RATING:** ★ ★ ★

AST has put its expertise as an expansion-card manufacturer to good use in the Premium 386/25. The microprocessor is installed on an expansion board, allowing you the option to someday upgrade to a more powerful i486 microprocessor, which AST has indicated it will manufacture. Like the previously reviewed AST Premium 386/C (reviewed above), the 386/25 provides two Smartlots that accept high-performance AST-designed expansion cards. The unit comes with a 90MB hard-disk drive that operates at an impressive 18 milliseconds. Otherwise, the 386/25 looks and feels much like the AST Premium 386/C. It's a large, solid computer with lights on the front panel to indicate speed changes and disk accesses.



### Dell System 325

**SUGGESTED RETAIL PRICE:** \$6,399

**SPEED:** 25 MHz

**SIZE:** Large

**RATING:** ★ ★ ★

The first thing you will notice about the Dell System 325 is the Made in the U.S.A. label on the front panel next to the speed-indicator lights. The next thing you will notice is that the unit employs the same large casing that Dell uses for all its 386 computers. The Dell 325 offers the high-performance specs that the company has become known for. Dell backs this mail-order computer with a 12-month, on-site service contract.



# Specifications for 23 Top Computers

## MS-DOS

Each computer system we assembled consists of at least 1MB (except where noted) of memory (RAM), a keyboard, a 1.2MB 5.25-inch or a 1.44MB 3.25-inch floppy-disk drive, a 40MB hard-disk drive (80MB or higher for 25 MHz), VGA output (either built in or on a card; 8- or 16-bit), a parallel port (P), a serial port (S), and DOS. The system's suggested retail price also includes a VGA color monitor.

We added the cost of missing components to the system's suggested retail price. For example, if DOS doesn't come with the system, the system's suggested list price in the chart includes the cost of the DOS. Our chart also

lists extra components, such as two serial ports (2 S) instead of one, or a mouse port (M). Five types of expansion slots are listed in the chart: AT (8- or 16-bit); PC (8-bit); MCA (MicroChannel Architecture); 16M (16-bit proprietary memory slot); 32M (32-bit proprietary memory slot).

In order to keep up with newer faster microprocessors, you need high-speed RAM. A 32K RAM cache (20 ns) can solve this problem. Standard RAM speed is 100 ns. The lower the wait state, the faster the computer. A computer with zero wait states can run up to 25 percent faster than a computer with one wait state.

Company/Model	System's Suggested Retail Price <sup>1</sup>	Standard/ System Memory <sup>2</sup>	Floppy- Disk Drives	Hard-Disk Drive Capacity/ Access Speed	Ports	Available Expansion Slots	RAM Cache	Wait States (Cycles)	Warranty (Months)
<b>8-MHz 286-based</b>									
AST Bravo/286 Model 45	\$3,664	1MB/4MB	1	40MB/28 ms	P, S, VGA (16)	3 AT	n/a	0	12
<b>10-MHz 286-based</b>									
Hyundai Super-286C	\$3,035	640K/1MB	1	40MB/39 ms	P, S, VGA (8)	2 AT, 2 PC	n/a	1	18
Tandy 3000 NL	\$4,177	640K/640K	1 <sup>3</sup>	40MB/28 ms	P, S, VGA (8)	3 AT, 2 PC, 1 16M	n/a	1	12
<b>12-MHz 286-based</b>									
Commodore PC40-III	\$2,595 <sup>4</sup>	1MB/1MB	1	40MB/19 ms	M, P, S, VGA (16)	3 AT, 1 PC	n/a	1	12
Compaq Deskpro 286e Model 40	\$4,418	1MB/1MB	1	40MB/29 ms	M, P, S, VGA (16)	4 AT, 1 16M	n/a	1	12
Epson Equity II+	\$4,098 <sup>5</sup>	640K/640K	1	40MB/28 ms	P, S, VGA (8)	3 AT, 1 PC	n/a	0	12
Epson Equity III+	\$4,598 <sup>5</sup>	640K/640K	1	40MB/28 ms	P, S, VGA (8)	5 AT, 1 PC	n/a	0	12
Headstart III	\$3,399 <sup>6</sup>	1MB/3MB	2	32MB/28 ms	M, P, 2 S, VGA (8)	3 AT	n/a	1	18
Hyundai Super-286N	\$3,385	1MB/4MB	1	40MB/29 ms	P, S, VGA (8)	2 AT, 2 PC	n/a	0	18
Zenith Z-286 LP/12	\$4,598	1MB/6MB	1 <sup>3</sup>	40MB/28 ms	P, 2 S, VGA (16)	2 AT	n/a	0	12
<b>16-MHz 386SX-based</b>									
Compaq Deskpro 386s Model 40	\$5,018	1MB/13MB	1	40MB/28 ms	P, S, M, VGA (16)	4 AT, 1 16M	n/a	1	12
IBM PS/2 Model 55SX-031	\$4,638	2MB/4MB	1 <sup>3</sup>	30MB/39 ms	M, P, S, VGA (16)	3 MCA-16	n/a	0	12
<b>20-MHz 386-based</b>									
AST Premium/386C Model 340	\$6,489	1MB/16MB	1	40MB/28 ms	P, 2 S, VGA (16)	3 AT, 1 PC	64K	0	12
Compaq Deskpro 386/20e Model 40	\$6,918	1MB/13MB	1	40MB/29 ms	P, S, M, VGA (16)	4 AT, 1 32M	32K	0	12
CompuAdd 320	\$3,380 <sup>7</sup>	1MB/16MB	1	40MB/28 ms	P, 2 S, VGA (16)	4 AT, 1 PC	32K	0	12
Dell System 310	\$4,219 <sup>7</sup>	1MB/8MB	1	40MB/28 ms	P, 2 S, VGA (16)	4 AT, 1 PC, 1 32M	32K	0	12
IBM PS/2 Model 70-121	\$8,738	2MB/6MB	1 <sup>3</sup>	120MB/23 ms	P, S, M, VGA (16)	1 MCA-16, 2 MCA-32	n/a	0	12
<b>25-MHz 386-based</b>									
AST Premium 386/25 Model 95	\$8,489	2MB/4MB	1	90MB/18 ms	P, 2 S, VGA (16)	1 AT, 1 PC, 2 32M	32K	0	12
Dell System 325	\$6,618 <sup>7</sup>	2MB/8MB	1	100MB/28 ms	P, 2 S, VGA (16)	4 AT, 1 PC, 1 32M	32K	0	12
Everex Step 386/25	\$7,347	2MB/8MB	1	80MB/28 ms	P, S, VGA (16)	4 AT, 1 PC, 1 32M	64K	0	12

**KEY:** <sup>1</sup>A 20 percent discount is available from most computer dealers; <sup>2</sup>Maximum amount of memory that can be added to the motherboard without using a memory expansion card; <sup>3</sup>3.5-inch 1.44MB floppy-disk drive; <sup>4</sup>Monochrome VGA monitor only; Commodore does not offer a color VGA monitor; <sup>5</sup>Epson doesn't offer a VGA card right now; <sup>6</sup>\$500 was added to the system's suggested retail price for the purpose of comparison; <sup>7</sup>Includes both 5.25- and 3.25-inch floppy-disk drives, Logitech Mouse, and the following software: *ATI Tutorial*, *Bookmark Plus*, *Chessmaster 2000*, *Computer-ease*, *Framework II*, *Perspective Three-D Graphics*, *Publish-It!*, *Splash!*, *Twist & Shout*, and *XTree*; the 18-month warranty also includes free on-site service; <sup>8</sup>Mail order (direct sale) only; no additional discount available.

## MACINTOSH

All the Macintosh systems we listed in the chart include one 3.5-inch 1.44MB floppy-disk drive, two ADBs (Apple Desktop Buses), one SCSI (Small Computer System Interface), two serial ports, one sound port, one external

floppy-disk drive (except the Mac IIcx), and the standard keyboard (\$199). Software includes the standard System, Finder, *HyperCard*, and other utilities.

Model	System's Suggested Retail Price <sup>1</sup>	Standard/System Memory	Floppy-Disk Drives	Hard Disk- Drive Capacity	Available Expansion Slots	RAM Cache	Warranty (Months)
<b>8-MHz 68000-based</b>							
Mac SE	\$3,598	1MB/4MB	1	20MB	1	n/a	3
<b>16-MHz 68030-based</b>							
Mac SE/30	\$4,998	1MB/8MB	1	40MB	1	n/a	3
Mac IIcx	\$8,845	4MB/8MB	1	80MB	2	n/a	3

**KEY:** <sup>1</sup>A 20 percent discount is available from most computer dealers.

## MANUFACTURERS MENTIONED

Apple (408) 996-1010; AST (714) 863-1333; Compaq (713) 370-0670; Commodore (215) 431-9100; CompuAdd (512) 250-1489; Dell (512) 338-4400; Epson (213) 539-9140; Everex (415) 498-1111; HeadStart (516) 482-4255; Hyundai (408) 473-9200; IBM (800) 465-1234, (914) 934-4642 for international sales; Tandy (817) 335-7198; Zenith (312) 699-4800



## Everex Step 386/25

**SUGGESTED RETAIL PRICE:** \$7,347

**SPEED:** 25 MHz

**SIZE:** Large

**RATING:** ★ ★ ★ ★

**REVIEWED:** June 1989

The Everex Step 386/25, like many other 386 computers, is a real desk cruncher. It has room for five disk drives—so that you can install a tape-backup device or a CD-

ROM drive with no trouble at all. Additionally, the Step 386/25 sports an amber alphanumeric front-panel display that provides status reports on equipment checks and disk accesses. The computer comes with extensive setup software, including a hard-disk utility and RAM-disk software. Unfortunately, this software is not particularly intuitive. Overall, however, the Step 386/25 is one of the fastest 386 computers in its class. It is designed for the true power user.



## Macintosh Computers

Macintosh computers are based on the Motorola 68000 microprocessor line, which includes the 68020 and 68030 chips. All Macintosh computers come with a 3.5-inch floppy-disk drive and a mouse. Rather than entering commands from the keyboard, you move the mouse to make choices from pull-down menus. Because of this easy operation scheme and the Macintosh's visual orienta-

tion, first-time users often find the Mac easier to master than an MS-DOS computer. Also, because of its graphic orientation, the Macintosh is extremely well suited for desktop publishing and related applications.

In the compact Macintosh line, exemplified by the SE and SE/30, the black-and-white monitor is built into the system unit. In the modular Macintosh line, the monitor

is separate from the system unit. All models presented here are capable of running MultiFinder (as long as they have enough memory), a program that allows you to do background printing or communications while you work with a file on-screen. In general, Macintosh computers are more expensive, feature for feature, than MS-DOS computers.



### Macintosh SE

**SUGGESTED RETAIL PRICE:** \$3,598†

**SPEED:** 8 MHz

**TYPE:** Compact

**RATING:** ★ ★ ★

**REVIEWED:** November 1988

† With 20MB hard-disk drive

The Macintosh SE is a reliable business computer. It is easy to use and fast enough for most tasks. The SE was recently improved with the addition of the Floppy Disk High Density (FDHD) drive, the Superdrive, which stores 1.4MB of data and reads MS-DOS, OS/2, and Apple II disks. The unit has one expansion slot, which can be used to add limited color capability, a larger monochrome monitor, or a speed-upgrade card. If you know you want speed, however, it might make more sense to buy the Macintosh SE/30 or IIfx.

### Macintosh SE/30

**SUGGESTED RETAIL PRICE:** \$4,998

**SPEED:** 16 MHz

**TYPE:** Compact

**RATING:** ★ ★ ★

**REVIEWED:** July 1989

The Macintosh SE/30, whose 68030 microprocessor and ROM chips are identical to those used in Apple's top-of-the-line Macintosh IIfx, packs a lot of power into a small box. The unit features a 68882 math coprocessor, which can increase the speed of numeric calculations and the redrawing speed of graphics screens significantly. The SE/30 has one expansion slot, which can be used to add a larger color or monochrome monitor for desktop publishing. Its Superdrive holds 1.4MB of data and can format, read, and write 400K, 800K, and 1.4MB disks as well as read MS-DOS and Apple II data disks. The SE/30's sound chip supports four-voice stereo, allowing for high-quality digitized music and synthesized speech.



### Macintosh IIfx

**SUGGESTED RETAIL PRICE:** \$8,845†

**SPEED:** 16 MHz

**TYPE:** Modular

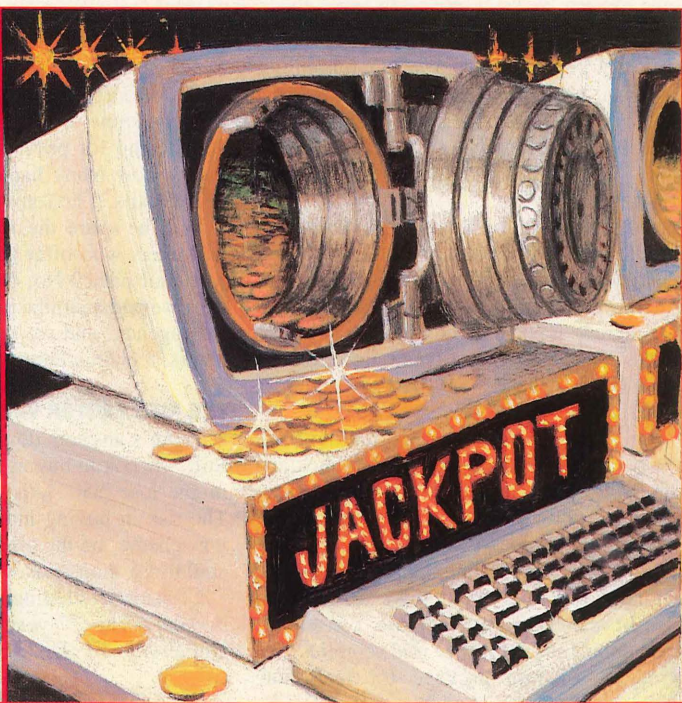
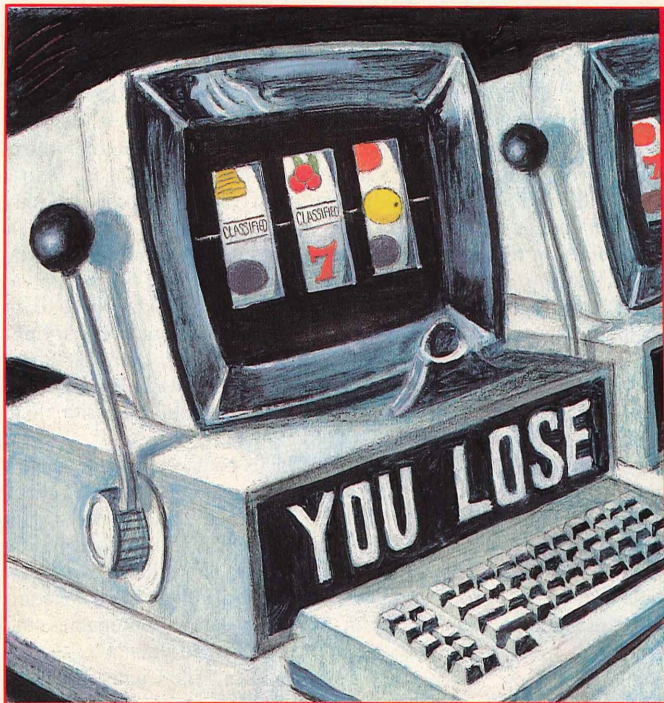
**RATING:** ★ ★ ★ ★

**REVIEWED:** July 1989

† With 80MB hard-disk drive

The Macintosh IIfx, like the II and IIfx, is designed more like an MS-DOS machine than the traditional Macintosh. The IIfx features three expansion slots and a free-standing monitor. You can choose from color, monochrome, two-page, or portrait monitors for your system. Like the SE and SE/30, it has a Superdrive. Despite its versatility, the IIfx is only about three inches wider than the SE/30. And unlike the SE/30, whose case should be opened only by a Macintosh dealer, the IIfx can be opened easily by the user to add expansion cards. The IIfx, with its color, sound, speed, and expandability, is quickly becoming the flagship of the Macintosh line. ■





# The Truth Behind Get-Rich-Quick Ads

*Business Opportunity Classifieds May Pique Your Interest,  
But If You're Not Careful, They'll  
Pick Your Pocket*

BY ELLIOT KING

In 1987, after 23 years as a salesperson with AT&T, Richard Boas received a golden handshake. With all that experience in telecommunications and information management, he decided to launch a consulting business.

He faced just one problem—he didn't know how to start. So Boas joined the American Consultants League (ACL), one of those outfits that run small ads under the heading Business Opportunities in the classified section of magazines. "Your advice," reads ACL's ad, "could be worth \$1,000 a day. Write for free information."

The "free" information actually costs \$96 and consists of a listing in a consultants' directory, a copy of the directory, a subscription to a newsletter, access to a hot-

line for advice, and discounts on books, among other things. Since 1984, about 1,000 people have joined the league, according to founder and executive director Hubert Bermont, an advertising consultant.

Boas spent the \$96, but his advice is not yet worth \$1,000 a day; he settles for \$200. He certainly is not rich; his income just covers expenses. And he has not received any business leads from the ACL directory.

Still, he says, "ACL is not a scam. It is a real resource and is worthwhile for the business tips, the consultant's library, and the discounts. It does have something to offer."

Custis Swope is not rich either. After 27 years as an executive with Scott Paper Company in Philadelphia, Swope set up Interact Management Associates two years ago to conduct human resource development seminars. He uses materials from Performax Learning Network, another business opportunity classified advertiser. "I am not mak-

ing good money yet, but I hope 1990 will be successful," says Swope. "You have to be optimistic."

For some, responding to these ads is like buying lottery tickets. Lured by promises of quick riches, they spend a few dollars to discover that the "secret" to vast wealth is selling building plans to neighbors, thinking positively, or writing ads like the one that snared them. Instead of earning millions, they have wasted their time and money.

But not all business opportunity advertising is less than meets the eye. A lot of people are worker bees who know that if they worked hard in their own business they could make a lot of money. Through classified ads they can buy someone else's idea and use it to their own advantage.

## ADS OFTEN PROMOTE COMPUTERS

Not surprisingly, personal computing is increasingly the wellspring of those ideas,

ELLIOT KING wrote the Buyer's Guide, "The Best Answering Machines for Doing Business," in the August issue.



with ads like "How to unlock \$97,250 from your personal computer" peppered generously throughout Business Opportunities sections. For would-be entrepreneurs, the personal computer has it all: technological appeal, relatively low cost, specific applications, the aura of success. In other words, it sizzles.

The steak behind that sizzle comes in three categories—books and other forms of business advice, entry to pyramid-like sales schemes, and elaborate business ventures that include a personal computer, usually to access a database. Price tags range from \$5 for a book to nearly \$10,000 to become a professional loan broker.

Are these real business opportunities? Not always. Some are schemes by fast-buck artists. But others are offered by honest entrepreneurs trying to build a business helping others build businesses.

Take John Mortz, for example. A chemical engineer turned entrepreneur, Mortz dabbled in real-estate development, consulting, and publishing. In the mid eighties, he wrote a software package for real-estate partnerships. He finished just in time for the tax reform to wipe out that type of partnership.

Undaunted, Mortz reformatted the program's business development suggestions, added 73 case studies of home-based businesses using computers, and offered the package in classified ads as *Moonlighting with Your Computer*. He produces the book using a Macintosh-based desktop-publishing system. Mortz says he has sold about 2,000 copies of the 288-page manual for \$39.95 each.

He is convinced that his business tips—how to network, how to conduct a business lunch, and so on—work. "I am not exactly Mr. Personality, and if they work for me, they can work for anybody," he says.

While case studies in the manual do not lay out step-by-step plans for building a specific business, Mortz plans to add detailed information about word processing and consulting in a forthcoming revised edition since "about 90 percent of the people who respond to my ads are interested in word processing, and about 10 percent in consulting."

Mortz is also willing to work hard for his customers. He has office hours during which they can call, and he's working on an electronic bulletin board that will aid in the selection of low-cost software. Both of these services are free.

Whether his customers have actually established successful businesses is anyone's guess. "I don't keep track," Mortz admits, "but a lot of people who want to be in business don't want to expend the effort it takes to be successful. They lack motivation."

Unlike Mortz, who proudly discusses *Moonlighting with Your Computer*, some publishers are testy about their books. Robert

Febre manages Pase Publications, which uses Business Opportunities ads to market *Reading for Pay*, *Handwriting Analysis for Pay*, *Mailing Letters for Pay*, and more. Does he know of any Pase book buyers who are reading for pay? "No more than Sears knows how many hammers it sells actually pound nails," he retorts.

Will he share the names of the satisfied customers who offer testimonials on his direct-mail piece? No, but "about 18 months ago, we had a similar request from a regulatory agency, and we sent them photocopied letters," claims Febre.

### THE RISK FACTOR VARIES

Febre's answers don't inspire confidence. Still, the risk in buying a book is small. You might lose \$50 satisfying your curiosity. The risk in buying into a pyramid-like selling scheme, on the other hand, is high. You could lose thousands.

Christopher Oetting calls himself an *info-preneur*. The 27-year-old graduate of the University of Delaware sold municipal

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**The rule of thumb is, buyer beware. After all, if getting rich were easy, more people would do it.**

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bonds before moving to southern California as a small-scale venture capitalist. Recently, he invested more than \$18,000 to become a distributor for BizCom, Inc., a new electronic bulletin board that is being marketed à la Amway.

For \$9,000 per area code (Oetting bought the rights to San Diego, Orange County, and part of New Jersey), a BizCom distributor, or *hub* in company jargon, receives a personal computer with an 80MB hard-disk drive, two modems, a monitor, a 30-inch satellite dish, and four days of intensive training in Salt Lake City to prepare him or her to serve as a local outpost for the BizCom database.

Subscribers pay \$300 annually to access the system for up to 30 minutes a day. But the big money in BizCom comes from subscription commissions that run four levels deep. That means that if you sell your brother-in-law a subscription, you receive a \$52 commission. If he sells one, you receive \$19.50. If that person sells one, you receive another \$19.50. And so on.

The \$64,000 question is whether or not the BizCom information is worth \$300 a year for 30 minutes of access a day. Who knows? The system is just coming on line.

Possibly the riskiest computer-based business opportunities are high-roller offerings

based on turnkey computer systems. For example, Interlink Financial Services charges people \$9,950 to affiliate with its network of loan brokers. Affiliates receive an IBM XT-compatible computer, assorted software, and a modem to link into Interlink's database of financial products. Those already equipped with a computer pay \$1,000 less.

In a slick sales presentation at an upscale hotel, Interlink's president, Tom Calva, makes it sound like any fool can write six to twelve loans a month without really trying. In reality, some people can, but most can't, according to one real-estate developer who has had extensive experience with loan brokers.

Interlink officials contend that the personal computer is the great equalizer that keeps their affiliates informed about every step in the lending process. But loan brokering is a high-stakes business, and with or without a computer, Interlink affiliates have to compete with a slew of known companies and twice as many established unknowns.

Along similar lines, The Center for Paralegal Training advertises: "Make money in the legal profession without being a lawyer." For \$2,000 to \$8,000, respondents receive an IBM XT-compatible computer with 512K of memory, a monitor, a modem, and access to an on-line home-training program.

"We are selling a business opportunity," says Jim Sparks, the national sales manager. He contends that paralegals can earn \$100,000 a year offering freelance services to escrow companies, title insurance firms, savings and loan associations, and such. But since the program is just rolling out, Sparks has no success stories yet.

### SCREEN ADS CAREFULLY

Success stories and legitimate references are just what you should demand when evaluating an investment of several hundred to several thousand dollars, especially since the ads are not always well screened. If an ad asks for money, media ad managers generally want to see what will be sent in return. Otherwise, most go no further than pulling ads when they get complaints.

Interestingly, the magazines that run business opportunity classifieds receive few complaints, according to some classified advertising managers. The U. S. Post Office can't tell how many mail-order fraud complaints are related to ads in Business Opportunities sections, but it is currently installing a system to break down that information.

Nonetheless, buying into these opportunities is like playing the lottery. The sales pitches are slick, but even ideas that work won't work for everybody. They may work for you. Some people made money with Amway and Herbalife; many did not.

The rule of thumb is, buyer beware. After all, if getting rich were easy, more people would do it. ■



# Audiotape Business Reels in Profits

## *How a Husband-and-Wife Team Have Capitalized On the Growing Conference Industry*

BY RONNIE GUNNERSON

**P**am and Terry Reutten's next vacation may be a luxurious cruise to the Caribbean. For any couple a cruise would be exciting, but for the Reutten's it will be downright symbolic. The trip will prove that they've made it. They can afford to renew the annual ritual they suspended in 1986 when Pam left her job in customer service with Safeguard Business Systems in Tustin, California, to join Terry in a home-based business.

Not that theirs is truly home-based. Suitcase-based is more like it. Pam and Terry are audiotape duplicators. Living out of a suitcase at least 75 percent of the time, they travel from one conference to another taping meetings, seminars, speeches, and panel discussions for on-site duplication and sales. They pride themselves on providing tapes for sale a half hour after the session.

Terry started the business 12 years ago while he was employed full-time by the World Bible Society broadcasting radio sermons for a minister. He began duplicating the radio broadcasts for audience members. He and Pam married in 1981, and he realized that his income from the nonprofit organization was too small so he began moonlighting. He called his business Master Duplicators.

From a neighborhood service for churches and private organizations, Master Duplicators has slowly but steadily grown into a professional recording service for small to medium-size conferences all over the country. The Reutten's are always the first to arrive and the last to leave, lugging along tape recorders, master duplicating machines, slaves (the machines that run copies from the master), cassette labels, and blank tapes. They have been known to work from 4 a.m. to 11 p.m. covering a one-day conference. Even at the end of a day like that, they have a hard time calling it quits.

"We're like performers," Terry says. "We're out there in front of people and have to be 'on' all day. The show ends at 6. We wrap up at 7, but we're too wired to sit down. We're dog tired, but we have to unwind."

### **BUSINESS IS BOOMING**

They're even more wired now that Master Duplicators is on a roll. Business more than doubled in 1988, and nearly tripled in 1989. It wasn't always this good, though. Before Pam came on board, Terry worked small shows by himself. He did reasonably well, certainly well enough to stay afloat, but as a team the two have been able to divide and conquer—once they got over the initial period of adjustment, that is. "We had a lot of fights in the beginning," laughs Pam, who

now handles administration and sales and has no intention of learning how to string cables. Technology and production are Terry's fortes.

To Pam, "everything is personal contact and keeping the customer happy," which includes everything from after-lunch peppermints on the sales table to one-year guarantees on all tapes, not to mention near-obsessive equipment maintenance. That's where Terry comes in. "It's my time, my livelihood, my equipment. I insist on keeping it well maintained," he says. "Trying to get the best sound quality is the top priority for us." To achieve the quality he wants, Terry uses Wollensak duplicators by 3M and Marantz tape recorders.

When they aren't on the road, Pam uses an AT&T 6300 PC with an IBM Proprinter and proprietary software by the International Society of Communications Specialists for cassette-label making. She uses *WordPerfect* to draw up contracts and order forms. The couple will soon add a fax machine and laser printer so they can use desktop-publishing techniques to enhance their order forms and create brochures. They also plan to buy a laptop and printer from Radio Shack for on-site cassette-label printing, which they now do manually. Tandy is Terry's brand of choice because "there's a Radio Shack in every city so I can get service no matter where I am."

Pam's training as a customer-service representative has gone a long way toward build-

### **S N A P S H O T**

**Pam and Terry Reutten**, audiotape duplicators

**RESIDENCE:** Garden Grove, California

**BUSINESS:** Master Duplicators, specializing in audiotaping conference proceedings for family- and health-related organizations

**GROSS ANNUAL INCOME:** \$100,000

**EQUIPMENT:** AT&T 6300 PC, IBM Proprinter, 3M Wollensak duplicators, Marantz tape recorders

**SOFTWARE:** *WordPerfect*, International Society of Communications Specialists's label-making software

**RX FOR SUCCESS:** "Be good to customers."



*Pam and Terry Reutten sold tapes at a conference sponsored by HOME-OFFICE COMPUTING in Laguna Nigel, California.*



ing the business in the past two years. Her strength is follow-up (she even sends a request for a letter of recommendation with every royalty check she mails to clients). "I haven't had difficulties with a client yet," she boasts. Among their clients are The Society of Travel and Tourism Educators, Inc., and the Marketing Research Association, but the majority—like the Child Welfare League of America Western Regional Conference—focus on family and health issues.

Conference earnings vary. Some organizations demand royalties; others do not. Master Duplicators usually asks for a minimum sales guarantee and if possible they try to get an accurate prediction of sales. The Reutzens will sometimes cut their own expenses to keep the company's costs low, especially if it's a first-time contract. However, they routinely ask for—and almost always get—a complimentary hotel room and meals, but they pay for their own transportation.

Although they are just beginning to pitch three- and five-year contracts, they already

have ongoing relationships with some clients, such as the California Association of Medical Directors, which has been using Master Duplicators for four years.

### HIDDEN COSTS

Overall, the Reutzens' overhead is moderate. Supplies are minimal since blank audiotapes cost about \$.40 apiece. Instead of maintaining a permanent staff, they book local technicians through the International Society of Communications Specialists when they need help.

For freelance technicians, they pay about \$100 a day. Measured against the \$4,000 they raked in from a two-day Archdiocese of Los Angeles Liturgy Conference in 1988, labor is cheap (not all conferences are quite that rewarding). Transportation is probably their highest cost; airfare can get pretty substantial for trips like the one they took from Los Angeles to Wisconsin to Cincinnati and back again in one week. Their airfare, however, is the lowest of their travel ex-

penses. Baggage handling is the worst, says Terry: "It's the hidden cost of our industry."

Airliners charge \$25 for each extra piece of luggage, and the Reutzens travel with at least two trunks (one for the master duplicator, the other for cables), one metal case for recorders, a box of order forms and a box of cassettes, and cassette boxes. Shuttle buses refuse to take them, and taxis charge for extra cargo. They hire a stretch limousine when no one else will take their gear.

Then there are the hotel bellboys—one from the cab to the front desk, another from the desk to the room, and yet another who helps set up and break down the equipment every day. Their big tips rival airfare.

### NO CREDIT CARDS ACCEPTED

Probably the toughest battle the Reutzens have had to fight is the one to get merchant status with banks so they can offer customers the option to charge tape purchases against Visa, MasterCard, and American Express (see sidebar). It's a battle they've lost with Visa and MasterCard. American Express is no problem, but the others work only through banks, explains Pam, and banks will not even look at an application from a home-based business.

The least of their worries so far has been marketing, only because the Reutzens have pretty much ignored it. But, so far, it hasn't required that much attention. Most business comes from referrals. Larger duplicating companies often recommend Master Duplicators for their spillover work; satisfied customers refer others; and publications in various fields frequently mention their services. In 1988, for example, after a medical journal mentioned that tapes were available from a 1986 conference, orders for the old tapes started pouring in. "The business has been growing by itself," says Pam. "If I do some serious marketing, think what will happen."

That is exactly what the Reutzens are planning to do. After two years on the road, the "Pam and Terry show," as one client fondly calls Master Duplicators, is over. Rather than sit at Master Duplicators' sales tables in hotel conference rooms, Pam is now sitting at a desk in her home office, drumming up more and more of those conference rooms for Terry to go to. But he won't go alone—Master Duplicators is hiring a salesperson to replace Pam on the road. The Reutzens' 5-year-old son, Chase, and 13-year-old daughter, Jamey, are two more reasons to decrease Pam's time away from home.

Pam will still travel occasionally, but most of her time will be spent telemarketing and developing sales materials for direct-mail campaigns, once her desktop-publishing system is in place. Target marketing is the only logical approach for Master Duplicators, say the Reutzens. Their work is too specialized for broad-stroke ad campaigns. Now that Pam has time to concentrate on marketing, that annual Caribbean cruise will doubtless not be missed again. ■

## THE REUTZEN'S STRUGGLE TO OBTAIN MERCHANT STATUS

Without a permanent storefront, home-based entrepreneurs in search of merchant status are an anathema to banks. Merchant status simply means a business has the right to accept MasterCard and Visa credit cards from its customers and turn those charges in to a bank for reimbursement. No big deal, right? Wrong.

Obtaining merchant status has been the single most frustrating obstacle that audiotape duplicators Pam and Terry Reutzen have ever faced. They've been turned down by The Bank of Newport, Bank of America, Wells Fargo Bank, and Bank of California. They've gotten leads that proved hopeless from the International Society of Communications Specialists. After 10 years in business, the Reutzens still have not found a bank willing to offer them merchant status.

But there are many home-based businesses facing this problem alone, especially if, like the Reutzens, they engage in mail-order sales.

"We do not open merchant accounts for any businesses that accept mail or phone orders," says Tim Weiler, assistant vice president for The Bank of Newport, in Newport Beach, California. "There's too much liability. If that's what you're looking for, I'd say good luck. A lot of banks have tightened their regulations on this in the last few years because many have gotten burned."

Most banks require commercial storefronts or an office suite before they'll even consider granting merchant status to a customer, says Marta Davis, merchant representative with the Bank of California in La Habra, California. "We do this because there's a lot of mail fraud. A commercial location diminishes the risk factor. A post-office box increases it."

And according to Elizabeth Belli, a marketing executive with the Independent Bankers Association of America in Washington, D.C., small banks are even more stringent than larger institutions because their risk is higher.

"My advice to small-business owners is that if they have a personal loan at a bank, go to that

bank first," says Belli.

The Reutzens did exactly that. Although they've been savvy enough to build Master Duplicators without bank loans, their business account has been with The Bank of Newport for years. It made no difference. A substantial portion of the Reutzens' sales are mail order and they have no storefront. The bank turned a deaf ear.

"It's next to impossible for a home-based business to get merchant status for mail and phone orders—from any bank in the country," says Larry Schwartz, president of The Credit Card Bureau in Boynton Beach, Florida. "Ninety-nine percent of all banks have closed their doors to home-based businesses and new merchants."

After owning both a mail-order company and a service bureau that processed credit cards, Schwartz set up The Credit Card Bureau seven years ago in response to clients' need for help with merchant-status applications. Acting as a clearing house—a court of last resort—for qualified merchants, including those with home businesses, the Bureau places them with the handful of banks and other processors who are willing to provide merchant status.

Fred Baron, president of 73-year-old Accurate Binding Company in New York, gives Schwartz the highest recommendation. Accurate Binding, which manufactures fine packaging for top jewelry stores, was branching into mail order and ran into the merchant-status wall. Baron's own research proved fruitless until he stumbled upon Schwartz and The Credit Card Bureau.

"Schwartz's contribution was substantial, and his advice was top-notch," says Baron. "He acted above and beyond the call of duty."

The bottom line? Schwartz found Baron a bank that granted him merchant status.

Readers interested in achieving merchant status can call The Credit Card Bureau hotline at (407) 737-7500. "We will guide all of those who can possibly be guided," says Schwartz.



# Word Processing for Writers

*Software Advice for Businesspeople, Academics, Journalists, and Script, Fiction, and Technical Writers*

BY STEVE MORGENSTERN

This is my seventh opening paragraph for this article. If I were using a typewriter, or even worse, yellow legal pads, I might have already contributed significantly to the paper shortage. Ecological concerns aside, I probably would have settled for the second or third draft.

When I place words directly on paper, they tend to stick—there they are and there they are likely to remain. It's time-consuming and frustrating to make changes on a document that's already on a piece of paper—it's not called hard copy for nothing.

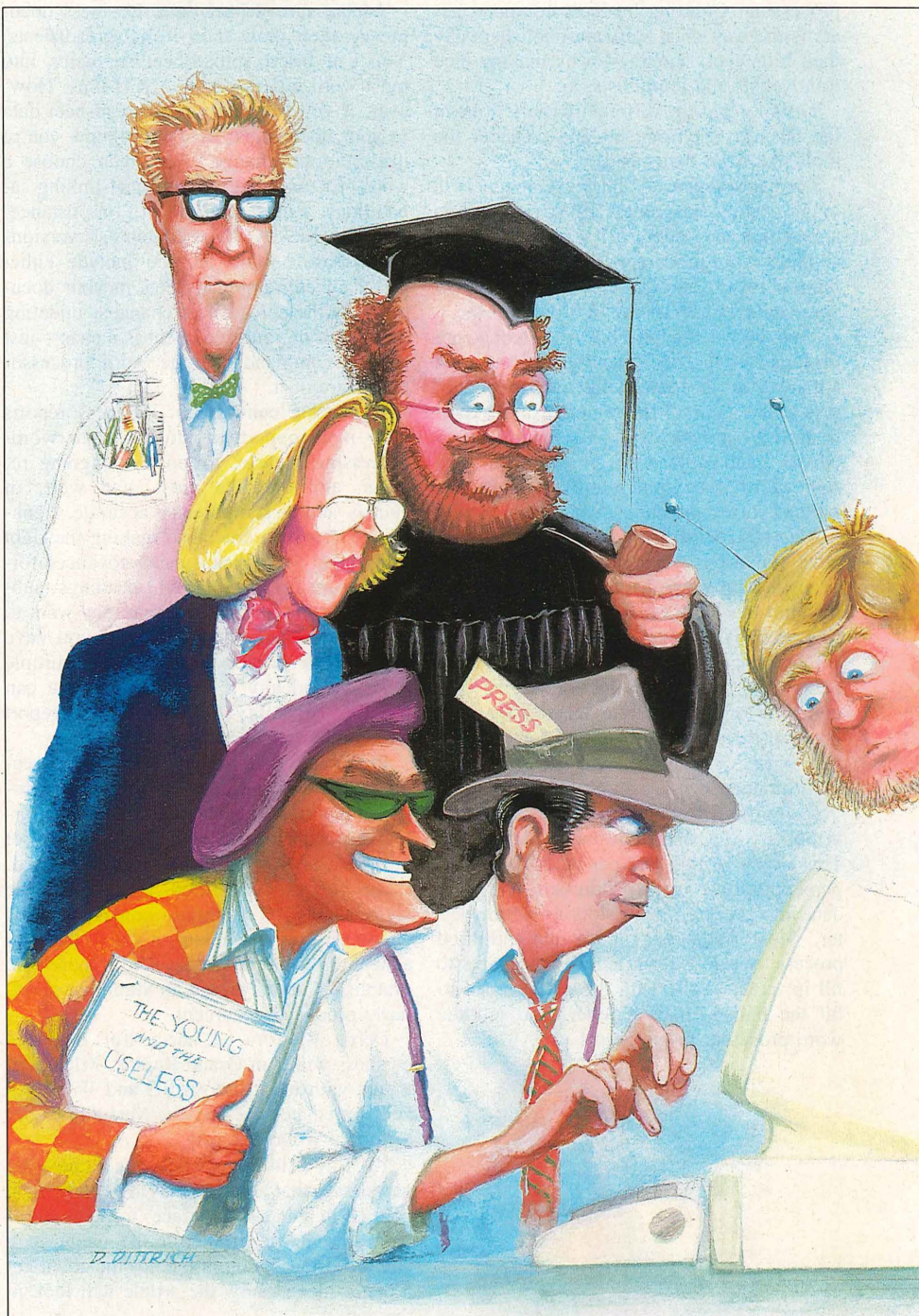
That's what makes word processing an essential part of my writing and not simply a convenience. When I enter words into my computer it's like applying a Teflon coating to each page. I can pick words up and move them around, either one at a time or by the heaping screenful. It's easy to write sections out of sequence, if that's the way my thoughts are flowing, and rearrange them later.

So, you know I'm a writer—here we are in the classic writer-reader relationship—but for the purposes of this article it might be helpful to know something about the range of what I write, since I plan to make suggestions based on my experience.

When we sat down to outline this article, my editor and I divided it into six categories: business, fiction, journalism, scripts, academic, and technical. In the course of making a living as a writer and editor for the past 15 years, I've worked in all of these categories and continue to work in most. I have considerable background as a keyboard jockey, and I honestly don't think I could write for a living without my word processor.

My experience has been that different kinds of writing demand different word-processing capabilities. However, the distinctions drawn among categories of writing are guidelines rather than strict boundaries. You may want to incorporate scanned graphic images into an academic research paper, for instance, or you could choose to include a multicolumn table in your novel.

STEVE MORGENSTERN has made his living as a writer for 15 years.





And, like me, you might wear several different hats when you sit down at the keyboard. So don't just read the material designated for your specialty—there may be times when you'll want to use word-processing features described in any of the sections. And for tools good for all specialties, the box "Calling All Writers" targets spelling checkers and outliners. Then the section "Recommended Word Processors for Writers" can point you to the best software for your needs.

## BUSINESS

Writing an article about word processing for business is basically writing about word processing. Courting business computer users is the way most software publishers pay their bills every month, not by making nice to novelists and journalists.

Let's look at the different writers' jobs in the business environment and consider the tools that meet their needs.

**Correspondence.** A business letter is a tough writing assignment. If you're writing a personalized letter, all you need is the simplest word processor. I lean toward *Professional Write* and *Q&A Write* on MS-DOS computers and *WriteNow 2.0* on the Mac.

Frequently, though, business letters are formulaic—take one friendly greeting, add a thank-you-for-your-interest-in-our-product, toss in the name of the regional sales representative, garnish with a complimentary closing, and stuff it in an envelope. The right word-processing setup can make this kind of correspondence a snap.

Macros are extremely useful. They automate repetitive writing by assigning text, even whole paragraphs, to a single key combination (such as Alt-F1 for a sales letter's first section). You might have a few different greetings assigned to macros, standard paragraphs for each product or service your company offers, separate macros for each regional sales rep, and another for the closing with your name and title—instant correspondence.

If you need to crank out correspondence in bulk, you'll want mail-merge capability. This isn't a writing tool per se, but a way to pop appropriate names, addresses, and other data into predetermined slots in a form letter. Most frequently, it's a cut-and-dried process: Set up a form letter with blanks to fill in, create a file with the data needed to fill the blanks in each letter, and tell the word processor to merge the two.



Some word processors make the letters appear less mechanical by including query fields in your form letter. As the mail merge progresses to each query field, the program stops and asks you to type what you want for that particular letter.

Of course, if writing is your business, then business-writing capabilities have special importance. Journalist David K. Palmer of Tucson, Arizona, used mail merge to send query letters to editors. "I was fond of proposing generic articles to trade magazines. That's a market where you can target a concept to a lot of different trades and industries, filling in the specific industry name as you go," he explains.

**Adding spreadsheet data.** Business documents often draw data from spreadsheets. You can insert spreadsheet segments into most word processors as ASCII files. However, if you frequently use spreadsheet data in your documents, or if the figures you're incorporating change often, then choose a word processor with spreadsheet-linking capabilities. Lotus *Manuscript*, for instance, and both MS-DOS and Macintosh versions of Microsoft *Word* let you include either partial or entire spreadsheets in your document. If the spreadsheet changes, updating its section in your document is a snap—just issue a command and the word processor takes care of it.

**Formatting consistency.** Business reports offer more opportunity to flex your word-processing muscle. Proposals, ongoing reports, and the like must read well, of course, and be scrupulously accurate. Looking good is also crucial to making the right impression. That means using advanced formatting features to highlight headings, subheadings, and key points. You may want to include tables or illustrations. If you have access to a printer that supports multiple typefaces (ideally a laser printer), you can use this capability to provide your report with structure and emphasis.

Producing handsomely formatted documents is much easier when your word processor has style sheets, where particular formats, such as margins and typefaces, are set up ahead of time to format text as needed. Once you've established your look, use style sheets to maintain consistency. If you're writing for a client, it's vital that you adhere to the client's style. And if there's no established style, mimic an attractive previously produced document.

Debra Rienstra, a successful freelance business writer in Grand Rapids, Michigan, works with a Macintosh SE and *Word 4.0* and appreciates the way the Mac allows her to format work precisely.

"If I'm writing an article for a corporate newsletter that will appear in a three-inch column in a certain typeface, for example, I will present the article to the client in a similar format—I think it helps the client get a better idea of how the article will look in the end."

**Checking grammar and style.** Those business writers unsure of their writing skills might want to explore a grammar- and style-checking program. Using such software is a matter of personal taste—I've tried a few and didn't find them helpful. In their present stage of development, grammar checkers don't seem smart enough to justify the time it takes to use them. A relatively strong program, such as *Grammatik III* or *Correct Grammar*, will accurately flag mistakes in punctuation or agreement between subject and verb.

Palmer's experience with grammar checkers was similar, and he offers a useful alternative. He suggests that most careful writers know the idiosyncratic grammatical flaws that tend to crop up in their writing: substituting *which* for *that*, for example, or using *it's* as a possessive. His solution? Routinely use the search capabilities of your word processor to check for your common mistakes.

For writers less sure of their grammatical skills, a grammar checker may yet prove useful. One problem remains, though—you must ultimately decide whether a given phrase is right or wrong. Good grammar checkers offer background information to help you make that decision. You may also want to have a good guidebook at hand, such as Strunk and White's *The Elements of Style*, Theodore M. Bernstein's *The Careful Writer*, or *The Chicago Manual of Style*, all available at most bookstores.

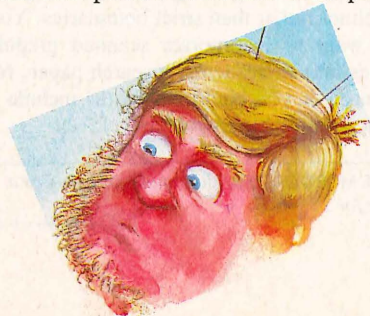
**Math.** A final word-processing capability that frequently comes in handy in business writing is a built-in math function. This is generally limited to basic arithmetic, but that's enough to make it worthwhile for simple calculations—like that soul-satisfying moment when you total up the items in a bill you're submitting to a client.

## FICTION

A fiction writer's word-processing requirements are as basic as they come. The main consideration is simplicity. I want a clean screen, easy-to-remember cursor-movement keys, and intuitive operation that won't get in the way of my thoughts.

**Thesaurus.** One word-processing frill that I find truly useful in my pursuit of perfect prose is an on-line thesaurus. The first time I installed a thesaurus on my hard-disk drive my attitude was, Why would anybody write with training wheels? After using it for a couple of weeks, however, I was hooked.

My favorite on-line thesaurus is *Word Finder*, a first-rate reference source. It's been incorporated in several word proces-





sors (notably *XyWrite III Plus* and *Word*). It's also available as a separate utility in both MS-DOS and Macintosh formats. Another highly praised add-on utility for the Mac is *The Big Thesaurus*.

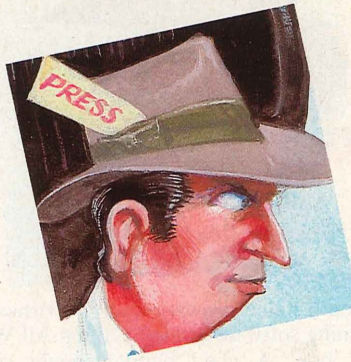
**Basic writing.** My friend Michaela Muntean is a "Sesame Street" alumna who now writes children's books at her home in Shelter Island, New York. She tried word processing years ago, and the experience was not pleasant. "It was one of those early computers with the horrible green screens, and it gave me headaches. Because of that, I missed several generations of improving technology. Now it's so different; it's like another world."

Muntean uses *WordPerfect* on a PC compatible with a hard-disk drive and an HP LaserJet Series II printer. Like many other fiction writers, she concentrates on the basics when using her word processor. "I use it as a glorified typewriter. I love things like deletes and moves."

## JOURNALISM

I've banged out 11th-hour articles on my trusty Tandy 100 portable using the built-in word-processing software that provides little more than a 40-character, 8-line screen and some basic cursor movement keys. But I'm a much happier journalist with a few amenities to make the job easier.

An automatic spelling checker and an online thesaurus are mighty handy, especially when you're trying to meet a deadline. So is a fast search-and-replace function—if I find out halfway through a piece that John Doe really spells his name Jon Dough, I don't



want to search through the whole article to correct the mistake.

**Windows.** A more esoteric feature I've come to rely on is multiple windows—either for different documents or different parts of the same document. Many word processors let you create little on-screen windows, which you can zoom to full size and shrink back down with a keystroke or click of the mouse. Other programs let you move among multiple full-screen documents instantly, and several combine both techniques.

How does this come in handy? Take an article I recently wrote about presentation graphics. I conducted phone interviews and transcribed the results into individual text files. While working on the article, I loaded several interview files into separate *XyWrite* windows. When I wanted to insert a quote, I switched to the appropriate window, highlighted the section I wanted, then cut and pasted it into the article text.

I thought the champ in this event was *Sprint*, which lets you keep up to 24 docu-

ments open and available simultaneously; but David K. Palmer writes a weekly calendar column for a local arts-and-entertainment newspaper and uses the *SmartWare II Word Processor* to create 35 windows on-screen at a time (the program can handle more than 50 windows).

**Counting words.** A word processor that counts the words in a document is a real boon to journalists who write to fit a predetermined length. *Word 4.0* for the Mac counts characters, lines, words, and paragraphs in any combination.

**Submitting your work.** A journalist does not work in a vacuum, and the preferences of the publication that's paying the bills should be taken into account. If you're turning in copy as a stack of paper, it doesn't much matter how you cranked it out. But many publications ask for delivery of text files as well, either on disk or directly online, via modem. You can always send straight ASCII text, but you lose all formatting. I always try to conform to the individual editor's preference. This article, for instance, will be submitted as a *Word* file for the Mac. My monthly *Machine Specifics* column, on the other hand, will be a straight MS-DOS ASCII file with carriage returns at the end of every line—same publication, different editor.

When Chris Adamec of Palm Bay, Florida, wrote her first book, *There Are Babies to Adopt*, the publisher offered a higher royalty rate if she submitted her book on disk. Adamec says about her current project, "I think using a computer and a word processor helped me sell my book proposal."

## Calling All Writers: Spelling Checkers and Outliners

The core features are found across the board in today's word processors. I'm talking about the ability to enter and delete text, automatically reformat paragraphs, move text blocks, move quickly from one section of a document to another, search and replace text, store your work on disk, and print your work. The ability to have the software automatically number pages and include running heads or footers on each page is also standard issue now.

Until recently, however, spelling checkers and outliners were exotic capabilities, found mostly in add-on software packages. Today they've become standard features in most word processors.

**Spelling checkers.** Most spelling checkers wait until you tell them before they start looking up words. Then they run through the manuscript looking for matches between the words typed and the words listed in a disk-based dictionary. If they fail to find a match, the software indicates a potential error and often offers a list of properly spelled words that are close to the one entered. You can select a replacement from this list, type in a new spelling, or tell the program to leave the word.

Another kind of spelling checker can also look up each word as you enter it, beeping if a word isn't included in the disk-based dictionary. This feature is less commonly included in off-the-shelf word processors (it's found in *XyWrite III Plus* and *Sprint* for MS-DOS computers and *MacWrite II*, among others, for the Macintosh), but is available to anyone through add-on software such as *Turbo*

*Lightning* (MS-DOS) and *Thunder II* (Mac).

I've used check-as-you-type spelling checkers and can't stand them. I find it much more convenient to go back at the end of a session to check the spelling than to pull the emergency brake on my train of thought to fix a spelling error. Other writers complain that an as-you-type spelling checker slows down text entry, making the word processor seem sluggish. But if you can't stand leaving mangled spelling in your wake as you type, this is your solution.

There are several differences between a good spelling checker and a mediocre one. Speed is clearly of the essence. So is the size of the dictionary. Nearly all let you add words to a user dictionary, which the program checks along with the main entries. Additional spelling-checker niceties are the option to ignore all words beginning with capital letters (to automatically avoid looking up all proper names) and case-sensitive replacement (if you make a substitution for a misspelled word, the replacement will mimic the capitalization of the word you originally typed).

If you write extensively in a foreign language or work in a field—such as law or medicine—with a specialized vocabulary, supplementary dictionaries are available for a number of spelling checkers. As you might expect, the widest variety can be found for the most popular word processors, such as *WordStar* and *WordPerfect*.

**Outliners.** Outlining, which you'll find both as a

feature in some word processors and as separate software, is another useful tool. If you gave up on outlining after it was forced-fed to you in junior high, it's worth trying again. The advantages of computer-based outlining over the pen-and-paper method are the same as a word processor's over writing on paper—flexibility.

You organize a software outline like a traditional one, with levels of headings and subheadings indented in a structured format. Restructuring is easy—move a major subheading and all the levels below move along with it. Collapse the structure to see only a certain level of detail or expand it to display all the points you've entered.

Built-in outlining, with several pluses, is now found in a wide range of word processors. Microsoft *Word*, for instance, lets you see the same document in both outline view and regular text view, toggling between them. You can also split the screen into two active windows, with the outline visible in one and the full text in the other.

Dedicated outliners also have their place in a writer's toolkit. These outliners are more fully featured than the built-in ones. For example, *Word's* outlining doesn't automatically revise the numbering and lettering of headings and subheadings as I rearrange the outline—a good stand-alone outlining program takes care of that chore instantly. Some recommended outlining programs include *GrandView* and *ThinkTank* for MS-DOS computers and *Acta Advantage* and *More II* for the Mac.



## SCRIPTWRITING

Scriptwriting's formatting requirements are unique. Each production company has distinct preferences, but there are two basic structures. In one, traditionally used for theatrical scripts, character names and stage directions are centered with dialog flush left beneath. In the other, generally used in film and video production, there are two columns of text: On the left side are character names and stage directions; on the right, dialog.

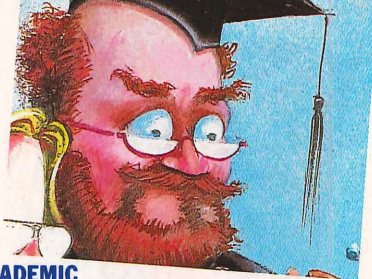
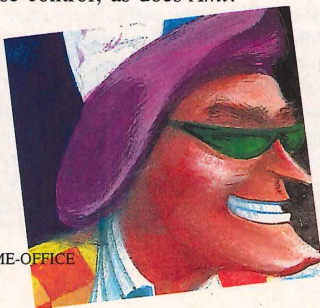
**Two special formats.** The first format is easy to handle as long as your word processor has macro capabilities. One kind of macro combines stored text with formatting instructions that you enter into a document with one or two keystrokes. Set up macros with your characters' names in the appropriate format (all capitals and centered, typically), set up another to format stage directions (often indented from both margins), and you're set.

Working in two side-by-side columns is trickier, since you want the name-and-stage-direction column to line up appropriately with the dialog column. You could accomplish this by tabbing each line individually, but that becomes annoying when you're writing and editing.

A better alternative is to find a word processor that supports side-by-side columns. The key here is side-by-side—lots of word processors produce multiple columns, but they run newspaper-style, filling column one with text, then starting at the top of column two.

I've worked with Microsoft *Word* and *WordPerfect* on both MS-DOS and Macintosh computers for side-by-side-format scripting and found them smooth performers. My favorite at this stage is *Word 4.0* on the Mac because of its new Tables capability. The name is potentially misleading—while a *Word* table can be built to look like a tabular spreadsheet, it can also be set up in a simple two-column format ideal for scripting. As you add more text, it wraps within its column, adding lines as needed and always remaining aligned with the column beside it. And all text appears on-screen in two-column alignment.

**Mouse.** For most writing tasks I am not a mouse aficionado—I like to keep both hands on the keyboard. Working on a heavily formatted script, however, I find the mouse much faster than keyboard cursoring. Any Mac word processor relies on the mouse by definition, but it's a specialty in the MS-DOS world. *Word 5.0* offers excellent built-in mouse control, as does *Ami*.



## ACADEMIC

You'll find a discussion on the virtues of outlining software in the "Calling All Writers" box. A good outliner might shine brightest in academic writing, where a structured argument makes or breaks a paper.

**Strict formatting required.** Since academic papers are formatted according to a strict set of rules, style sheets—sets of formatting specifications—are useful tools. For example, the major headings in a paper might be styled with all capital letters, boldface, and perhaps in a distinct typeface. Quotations in the main text may be set in italics or underlined and indented from both left and right margins. If your word processor supports style sheets, each of those formatting combinations can be defined individually. By using a keystroke or combination of keystrokes (or selecting from an on-screen menu), you can apply a style to a block of text, and it will take on the full formatting specifications.

Style sheets offer speed and consistency—all the text assigned a particular style will be formatted uniformly. Another advantage is the ability to quickly revise formatting for all the text assigned to a given style. If, for example, you wanted to remove the boldface attribute from all of your subheads, you could simply revise the style definition once, and then all the text assigned to that style would conform automatically.

*Word* (MS-DOS and Macintosh) and *WordPerfect* (MS-DOS only) let you create full style sheets. *Nota Bene*, a long-standing favorite in the academic community, streamlines the process further by including a set of prepared page layouts based on the standard stylebooks for several areas of study.

**Footnotes.** Academic writing requires extensive footnoting. Word processors with footnoting capability make the task much simpler by linking the reference in the body text with the note's text. That means you can insert footnotes as you write without worrying about where they will fall in the printed document—either at the bottom of each page (traditional footnotes) or at the end of the document (commonly called endnotes).

Most footnoting word processors also give you the option of using a footnote marker (say a dagger or an asterisk) or having the program number your footnotes automatically.

You might also want to include both footnotes and endnotes in a separate series;

for example, definitions at the bottom of each page and bibliographic references at the end of the manuscript. This extra is hard to find. If you need it, check out *WordPerfect 5.0*, *Sprint*, or *Lotus Manuscript 2.1*.

## TECHNICAL

Broadly speaking, technical writing refers to documents that explain how to accomplish something, from using your new toaster to spot-welding the fuselage on a fighter plane.

Technical writing shares some of the organization and formatting characteristics of academic writing. The features already discussed in those regards—outliners and style sheets—will serve you well. What make technical-writing projects distinctive are the graphics used to illustrate the text and the clear and compact presentation of large amounts of information with charts and tables.

**Graphics.** Any stand-alone Macintosh word-processing program will let you cut and paste illustrations into your document through the system's Clipboard. However, graphics capabilities are still fairly primitive in MS-DOS word processors. The relatively simple word processors, often lumped into the "executive" category, tend to ignore graphics altogether. On the high end, *WordPerfect* offers sophisticated graphics-importing features, and *Word* and *Manuscript* aren't far behind.

A second rapidly developing MS-DOS category includes word processors that work in a graphical environment—Microsoft *Windows* or DRI's *GEM*. The most sophisticated program I've used from this group is *Ami*, which runs under *Windows*. *Ami* lets you create frames (rectangular areas that can contain images imported from several popular graphics programs) within your document. Frames can be resized and moved around the page, and the image is displayed in position on-screen.

The current release of *Ami* lacks several features found in high-end word-processing software, such as indexing, a thesaurus, and side-by-side columns. However, a more complete program, *Ami Professional*, should be available by the time you read this. On the horizon is Microsoft *Word* for *Windows*, which promises to be a formidable program, but has no announced shipping date at this time.

**Multicolumn formats.** Many word processors today include a variety of features geared toward producing multiple-column, highly formatted documents, including extensive laser-printer support, automatic hy-





phenation (to produce justified text), and the ability to incorporate illustrations. Several also offer a graphic preview mode for viewing full pages on-screen at a reduced size (or at full-size on larger screens), displaying illustrations and a reasonable approximation of the actual typefaces as they will print out.

This type of page preview is common for the Mac; for MS-DOS computers, it's available in *WordPerfect*, *Word*, *WordStar 5.5*, and *Professional Write*.

**Tables in your text.** I mentioned the virtues of the innovative Table feature of *Word* 4.0 for the Mac earlier; *Nota Bene* and

*XyWrite III Plus* offer similar, but not as easy to use, features for MS-DOS computers. For technical writing, there is another strategy to consider—importing tabular data directly from a spreadsheet or database.

Constructing the table is one thing; keeping track of several tables is another. You

## Recommended Word Processors for Writers

### Major Features, Task by Task

The essence of word processing is the same no matter which program you choose, but particular features may make one package better for one kind of writing than another. Consider how much you need the following features from your word processor:

**Thesaurus.** Useful as a memory-jogger in most kinds of writing.

**Outliner.** Best for entering and then organizing your ideas—useful for most writers, particularly academic and technical writers.

**Side-by-side columns.** Most needed by scribes.

**Snaking columns.** Particularly useful for creating newsletters.

**Graphics** (MS-DOS only). The ability to place graphics into MS-DOS word-processing documents is still a rare feature. Business and technical writers would most benefit.

**Drawing tools** (Mac only). Every Mac word processor accepts graphics, but not all let you draw them, too. Potentially useful for touching up or adding finishing touches, such as rules between columns of text.

**Graphic preview.** Lets you see a page on-screen as it will look in print, with elements such as headers and footnotes in place. Those with strict

formatting requirements, academics, for example, will appreciate this feature.

**Macros.** Among other capabilities, macros insert words, phrases, or large blocks of text into your documents with simple keystroke commands. For instance, you might make Alt-C insert your standard closing to a business letter. Any repetitive writing can be simplified.

**Windows.** Very helpful when you're trying to draw information from several files into one document (I use them a lot as a journalist).

**TOC.** Publishing shorthand for *table of contents*. Means most to technical writers, with some use for longer academic works or newsletters.

**Indexing.** Same as TOC.

**Foot/Endnotes.** Notes at the bottom of the page; notes at the end of the document. All the programs surveyed here will either do both or neither. Beyond academia, good for detailed reports and business proposals.

**Mouse** (MS-DOS only). When they like one, most writers like a mouse best when they're doing more editing than writing. Still uncommon for MS-DOS writing tools.

**Text wrap** (Mac only). With their generally more sophisticated, desktop-publishing-like graphics capabilities, some Mac word processors even let

text wrap, or flow, around a graphic—a big help for newsletters, reports, or sales pieces.

**Word count.** Some also count characters, lines, and paragraphs. Necessary for journalists.

**Mail merge.** Join a list of names, addresses, and any other information you'd like to a series of seemingly personalized letters. A useful business writer's tool.

**Style sheets.** Save a distinct combination of formats—margins, line spacing, typeface, and such—as a style. Impart a style on a particular section, such as a large, centered boldface one for heads or indented italics for quotations. Similar to macros in that it automates often-repeated word-processing tasks.

**Math.** Some programs can perform simple four-function math within your document. Businesspeople might find that helpful.

**Spreadsheet links.** Being able to paste spreadsheet figures into a document is helpful. Spreadsheet links—often called dynamic links—are better. They create a live connection between spreadsheet and word-processing files so that if you make changes in the spreadsheet, they're automatically updated in the written document. Technical writers, as well as consultants or others making bids, can save time using this feature.

IBM/MS-DOS	Thesaurus	Outliner	Side by Side Columns	DTP/Snaking Columns	Graphics	Graphic Preview	Macros	Windows	TOC	Indexing	Foot/Endnotes	Mouse	Word Count	Mail Merge	Style Sheets	Math	Spreadsheet Linking
Ami v1.0a	N	N	N	Y	Y	Y	N	1	N	N	N	Y	Y	N	Y	N	N
DeskMate Q&A Write v1.0	Y <sup>1</sup>	N	N	Y	Y	Y	Y	1	N	N	N	Y	Y	Y	N	Y	Y
Lotus Manuscript v2.1	Y <sup>2</sup>	Y	Y	Y	Y	Y	Y	1	Y	Y	Y	N	N	Y	Y	Y	Y
Microsoft Word v5.0	Y <sup>2</sup>	Y	Y	Y	Y <sup>2</sup>	Y	Y	8	Y	Y	Y	Y	Y	Y	Y	Y	Y
Nota Bene v3.0	Y	Y	Y	Y	N	N	Y	9	Y	Y	Y	N	Y	Y	Y	Y	N
PC-Write v3.0	Y <sup>3</sup>	N	Y	Y <sup>4</sup>	N	N	Y	2	Y	Y	Y	Y	Y	Y	N	N	N
Professional Write v2.1	Y	N	N	N	Y <sup>5</sup>	N	Y	1	N	N	N	Y <sup>3</sup>	Y	Y	N	Y	Y
Q&A Write v1.01	Y <sup>3</sup>	N	Y	Y	N	N	Y	1	N	N	N	N	Y	Y	N	Y	Y
SmartWare II Word Processor v1.0	Y	Y	Y	N	Y	N	Y	50	Y	Y	Y	N	Y	Y	N	Y	N
Sprint v1.0	Y	Y	Y	Y	Y	N	Y	6	Y	Y	Y	Y	Y	Y	Y	Y	Y
WordPerfect v5.0	Y	Y	Y	Y	Y	Y	Y	2	Y	Y	Y	Y <sup>3</sup>	Y	Y	Y	Y	N
WordStar v5.5	Y <sup>2</sup>	Y	N	Y	Y	Y	Y	2	Y	Y	Y	Y <sup>3</sup>	Y	Y	Y	Y	Y
XyWrite III Plus v3.55	Y <sup>2</sup>	N	Y	Y	N	N	Y	9	Y	Y	Y	Y <sup>3</sup>	Y	Y	Y	Y	N

MACINTOSH	Thesaurus	Outliner	Side by Side Columns	DTP/Snaking Columns	Drawing Tools	Graphic Preview	Macros	Windows	TOC	Indexing	Foot/Endnotes	Text Wrap	Word Count	Mail Merge	Style Sheets	Math	Spreadsheet Linking
MacWrite II v1.0	Y <sup>2</sup>	N	N	Y	N	Y	N	7	N	N	Y	N	Y	Y	Y	N	N
Microsoft Word v4.0	Y <sup>2</sup>	Y	Y	Y	N	Y	Y <sup>2</sup>	22	Y	Y	Y	Y	Y	Y	Y	Y	Y
MindWrite v2.1	N	Y <sup>6</sup>	N	N	N	N	N	Y <sup>8</sup>	Y	N	N	N	N	N	N	N	N
Nisus v2.0	Y	N	Y <sup>7</sup>	Y	Y	Y	Y	Y <sup>8</sup>	Y	Y	Y	Y	Y	Y	Y	Y	N
QuickLetter v1.01	N	N	N	N	N	N	N	9	N	N	N	N	N	Y	Y	N	N
WordPerfect v1.0.2	Y	Y	Y	Y	N	Y	Y	Y <sup>8</sup>	Y	Y	Y	Y	Y	Y	N	N	N
WriteNow v2.0	N	N	N	Y	N	Y	N	Y <sup>8</sup>	N	N	Y <sup>9</sup>	N	Y	Y	N	N	N

<sup>1</sup>Works with DeskMate thesaurus. <sup>2</sup>With supplied program. <sup>3</sup>With additional program. <sup>4</sup>Manual, not automatic. <sup>5</sup>Graphics limited to boxes and rules. <sup>6</sup>Based in outliner format. <sup>7</sup>Only partially implemented. <sup>8</sup>Depends on memory. <sup>9</sup>No endnotes, only footnotes.



can manually number tables and figures and insert textual cross-references, but some high-end word processors—such as *Word* 5.0, *Lotus Manuscript* 2.1, *PC-Write*, and *Nota Bene*—will automatically handle these chores. You may also want to include a list of tables or figures in your technical document. Once again, this chore can be automated with a suitably equipped word processor.

**Index and table of contents.** Creating an index or a table of contents for a lengthy manuscript is another time-consuming chore that becomes more manageable with the

right word processor. The process is similar for both tasks: You go through your document and insert nonprinting *tags* to indicate which text blocks you want included in the table of contents or index. When you're done, the program goes through the text, compiling tagged entries and their page references into a formatted listing.

Some word processors, such as *WordPerfect* 5.0 and *PC-Write*, make indexing even simpler by letting you create a separate file listing all the words you want to index. The program will then search your manuscript for these words and compile an index.

## Word Processor Data

Nearly all the programs listed below are mentioned in the text, and all are recommended. Note that under MS-DOS system requirements, unless otherwise indicated, the software requires DOS 2.0 or higher.

### IBM/MS-DOS

**Ami v1.0a** (\$199). Samna Corp., (404) 851-0007. System requirements: 640K (80286 or 80386 microprocessor); one drive (720K or greater recommended) and hard-disk drive; CGA, EGA, VGA, MCGA, Hercules; mouse recommended; DOS 3.0 or higher; 5.25- or 3.5-inch

**DeskMate Q&A Write v1.0** (\$199). Symantec Corp., (408) 253-9600. System requirements: 512K (640K recommended); one drive (hard-disk drive optional); CGA, EGA, VGA, Hercules; 5.25- and 3.5-inch

**Lotus Manuscript v2.1** (\$495). Lotus Development Corp., (617) 577-8500. System requirements: 512K (640K recommended); hard-disk drive; CGA, EGA, VGA, Hercules, MDA (does not support page preview); 5.25- and 3.5-inch

**Microsoft Word v5.0** (\$450). Microsoft Corp., (206) 882-8080. System requirements: 384K; two drives (hard-disk drive optional); CGA, EGA, VGA, Hercules; mouse optional; 5.25- or 3.5-inch

**Nota Bene v3.0** (\$495). Dragonfly Software, (212) 334-0445. System requirements: 512K; two drives (hard-disk drive recommended); CGA, EGA, VGA, Hercules, MDA; 5.25- or 3.5-inch

**PC-Write v3.0** (\$99). Quicksort, Inc., (206) 282-0452. System requirements: 384K; two drives (hard-disk drive optional); CGA, EGA, VGA, Hercules, MDA; mouse optional; 5.25- or 3.5-inch

**Professional Write v2.1** (\$229). Software Publishing Corp., (415) 962-8910. System requirements: 512K (640K recommended); two drives (hard-disk drive recommended); CGA, EGA, VGA, Hercules, MDA; 5.25- and 3.5-inch

**Q&A Write v1.01** (\$199). Symantec Corp., (408) 253-9600. System requirements: 384K (512K recommended); two drives (hard-disk drive optional); CGA, EGA, VGA, Hercules, MDA; DOS 2.0 or higher (DOS 3.3 for PS/2); 5.25- and 3.5-inch

**SmartWare II Word Processor v1.0** (\$249). Informix Software, Inc., (913) 599-7100. System requirements: 512K (640K recommended); hard-disk drive (with 5MB free space); CGA, EGA, VGA, Hercules, MDA; 5.25- or

3.5-inch

**Sprint v1.0** (\$200). Borland International, (408) 438-8400. System requirements: 384K; two drives (hard-disk drive optional); CGA, EGA, VGA, Hercules; 5.25- or 3.5-inch

**Wordbench v1.0** (\$189). Addison-Wesley Publishing Co., (617) 944-3700. System requirements: 256K; two 360K drives or one 720K drive (hard-disk drive recommended); CGA, EGA, VGA, Hercules; 5.25- or 3.5-inch

**WordPerfect v5.0** (\$495). WordPerfect Corp., (801) 225-5000. System requirements: 384K (512K highly recommended); two drives (hard-disk drive recommended); CGA, EGA, VGA, Hercules; 5.25- or 3.5-inch

**WordStar v5.5** (\$495). WordStar International, (415) 499-1200. System requirements: 384K (512K recommended); two drives (hard-disk drive recommended); CGA, EGA, VGA, Hercules; 5.25- or 3.5-inch

**XyWrite III Plus v3.55** (\$445). XyQuest, Inc., (508) 671-0888. System requirements: 384K; two drives (hard-disk drive recommended); CGA, EGA, VGA, Hercules; mouse optional; 5.25- or 3.5-inch

### MACINTOSH

**MacWrite II v1.0** (\$249). Claris Corp., (408) 987-7000. System requirements: 1MB; two 800K drives (hard-disk drive optional); System 6.0 or higher

**Microsoft Word v4.0** (\$395). Microsoft Corp., (206) 882-8080. System requirements: 512K; two 800K drives (hard-disk drive recommended); System 3.2 or higher

**MindWrite v2.1** (\$195). Delta Point, Inc., (408) 648-4000. System requirements: 512K; two 800K drives (hard-disk drive optional); System 5.0 or higher

**Nisus v2.0** (\$395). Paragon Concepts, Inc., (619) 481-1477. System requirements: 1MB; two 800K drives (hard-disk drive recommended); System 5.0 or higher (6.0 highly recommended)

**QuickLetter v1.0.1** (\$125). Working Software, Inc., (408) 423-5696. System requirements: 512K; one 800K drive; System 5.0 or higher

**WordPerfect v1.0.2** (\$395). WordPerfect Corp., (801) 225-5000. System requirements: 512K; two 800K drives (hard-disk drive recommended); System 4.1 or higher

**WriteNow v2.0** (\$195). T/Maker Co., (415) 962-0195. System requirements: 128K (512K recommended); two drives (hard-disk drive optional); System 3.2 or higher

## A PERSONAL DECISION

Seven years ago I discovered Pentel mechanical pencils with thin 0.5 mm leads, and I've been using them ever since. In fact, if I have to write more than a shopping list with an ordinary number-two pencil now, I get fidgety.

I could make a logical case for the excellence of a Pentel pencil as a writing implement, but I'd be kidding both of us. I like it because I like it—the look of the crisp line on paper, the way it feels in my hand, the familiarity it's acquired over seven years.

The same logical illogic holds for word-processing software. Just because I bestow a four-star review on one word processor and a two-star on another doesn't necessarily make the first one a better choice for you. Writing is an intensely personal pursuit, and the tools you use to accomplish the task have to feel comfortable.

Several writers I spoke with admitted to using only a very small subset of their word processors' capabilities and recommended sticking with a simple program. Dianne Breen, for instance, is a managing editor for The Newsletter Factory, a Macintosh-based company that prepares corporate newsletters. Breen uses *Word* 4.0 to be compatible with her clients, but says, "I may use 50 percent of the program's capabilities. For basic writing you just don't need it. I'd say don't overbuy. Chances are the streamlined programs will work and work well."

On the other hand, David K. Palmer says, "I use the *SmartWare Word Processor* for my calendar column, *Word* for some articles and ghostwritten books, *WordPerfect* 5.0 for newsletters, and *Webster's New World Writer* for articles I write on the road using a laptop because of the program's small size. I also use *WordStar* because I occasionally write technical manuals for companies that use *WordStar*."

Palmer's advice? "Don't fall in love with one word processor, because they all have their own strengths and weaknesses. The one you're using may be absolutely perfect for the task you're doing today, but there may be a better one for the task that's coming up next week. It isn't that hard to learn more than one."

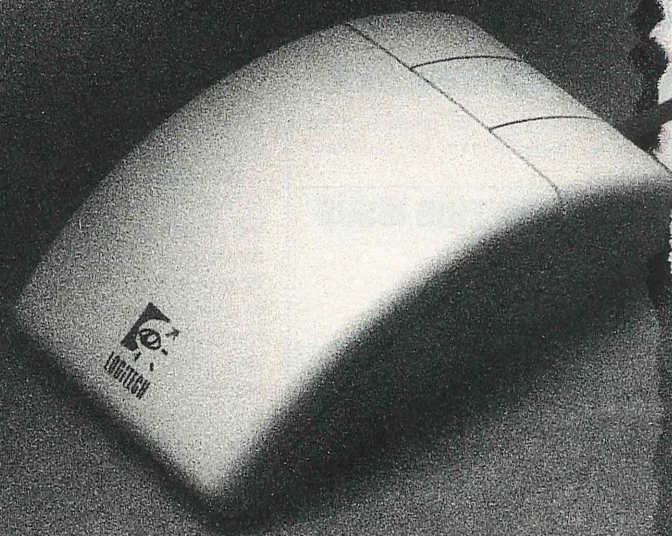
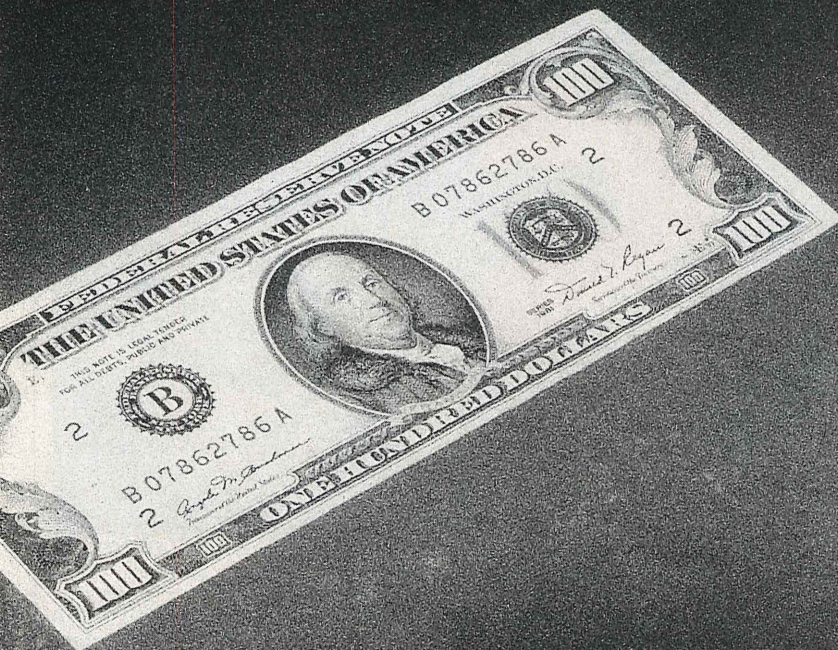
Should you choose simple word-processing software or a full-featured program? Should you have a monogamous or polygamous relationship with word processors? Whatever the choice, I would urge even the most die-hard pencil-and-paper devotee to give word processing a serious try. If you care about the rhythms and tone of what you write, enjoy placing just the right word in just the right spot, and believe in shaping and crafting your prose, then you probably spend more time rewriting than writing the original draft. Nothing encourages rewriting the way a word processor does, and that makes for a better final manuscript.

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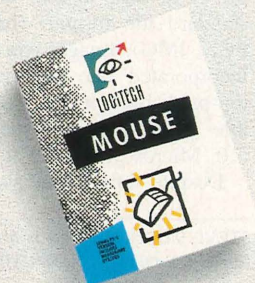
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# Image Power in the Palm of Your Hand

BY STEVE MORGENSTERN

## Reviews of Three Inexpensive Scanners

Optical scanners—devices that read and “capture” printed text or artwork, transforming it into computer files—have been around for several years. Plummeting prices, especially for hand-held models, have made them increasingly accessible.

Scanners can capture any type of artwork, whether it consists of lines or shaded areas (known as line art and image art respectively) including photographs.

With the help of optical character recognition (OCR) software, a scanner can also read a page of text and turn it into an editable word-processing file. This could save any word-processing or desktop-publishing business countless hours of retyping.

Finally, a scanner is a valuable adjunct to a computer fax board. The fax board handles the transmission part of faxing, but without a scanner, users will be limited to sending text files and computer-generated graphics. Adding a scanner brings full graphics capability to the system.

Though some or all of this may be attractive to owners of home businesses, prices for full-featured desktop scanners (flatbed and sheet-fed models), currently hovering in the \$1,500 to \$2,000 range, may well be daunting. Those who can make do with the ever-increasing capabilities of a hand-held scanner, however, can get into the game for between \$250 and \$500.

To scan an image with a hand-held scanner, you slowly move it across the original text or artwork. Software (supplied with each of these units) captures the resulting digitized image, storing it in RAM or writing it to disk in one of several industry-standard file formats (for example, TIFF, PCX, IMG). Images can then be edited and incorporated into documents with a desktop-publishing program or graphics-compatible word processor such as *WordPerfect* 5.0, *Microsoft Word* 5.0, or *Ami*.

Despite some initial skepticism, I am im-



These three hand-held scanners (clockwise from left: The Complete Half-Page Scanner/400, The Complete PC Hand Scanner/400, and ScanMan) bring you graphics power at bargain prices.

pressed with these pint-size picture grabbers. Some users will need the capabilities of a desktop unit, but for many, a hand-held scanner will do.

### DESKTOP VS. HAND-HELD

**Image Size.** Most desktop scanners will accept (scan) a full sheet of legal-size paper.

### ABOUT THIS MINIGUIDE

This month we looked at the products of the two leading manufacturers of hand-held scanners.

### REVIEWED IN THIS ISSUE

#### Computer:

NEC UltraLite

#### Printer:

Star Micronics XB-2410 Multi-Font

#### Hand-held Scanners:

The Complete PC Hand Scanner/400

The Complete PC Hand Scanner/400

Logitech ScanMan

#### Copier:

Sharp Z-75

#### Telephone:

Sony SPP-110

The scanning area of the hand-helds is much smaller: a maximum width of just over four inches. Of course, this limits the size of what you can scan. In theory, you can scan larger material in strips and assemble the strips into a complete image.

**Resolution.** Each of the scanners reviewed here offers users a choice of three resolutions: 200, 300, or 400 dots per inch (dpi). The ScanMan also offers 100 dpi. The higher the resolution, the more detail in the image. Some desktop models offer resolutions as high as 800 dpi.

**Accuracy.** A desktop scanner has a motor to control the movement of the image past the scanning head (or vice versa), which ensures accurate reproduction. With a hand-held unit this is your responsibility: In order to avoid distortion of the image, you must move the scanner in a smooth, straight motion across the page. Though shaky in the beginning, my scanning technique improved with practice, and eventually I improvised a guide—a heavy book—to help keep me on track.

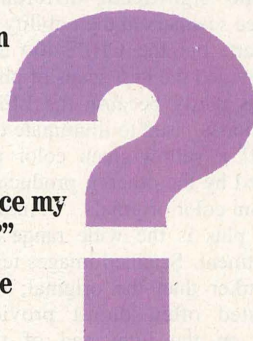
**Gray Areas.** A black-and-white photograph is composed of many different shades of gray. Scanners can recognize shades of

STEVE MORGENSTERN is a contributing editor for HOME-OFFICE COMPUTING.



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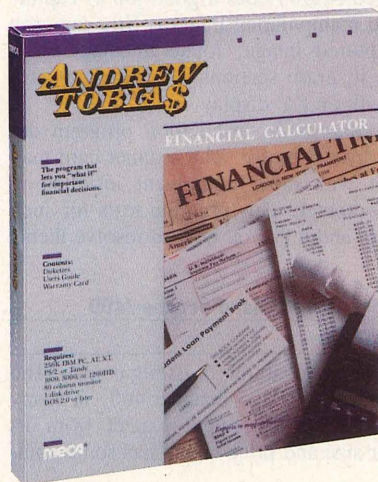
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gray and include this information in the scan by assigning each dot a gray-scale value. To recreate the effect on a graphics printer, each group of gray-scale values is translated into a pattern of dots. This conversion is called dithering.

Most scanners are capable of dithering an image. In fact, each of the units reviewed here offers a choice of three dithering patterns. Most desktop models, however, offer an additional option—storing scanned data as a gray-scale image file, which provides better final image quality when graphics are significantly enlarged or reduced.

**Collecting Art.** Virtually all scanners, hand-helds included, do a good job reproducing line art. Copyright-free collections, such as those published by Dover Books, are a great source of line art. This is an excellent and inexpensive way to add to your clip-art collection. With minimal touch-up in a graphics program, the results will look terrific in a newsletter or report.

Let's take a closer look now at the specific strengths and shortcomings of three hand-held models.

#### The Complete PC Half-Page Scanner/400

**RATING:** ★ ★ ★

This T-shaped unit stands out from the group. With a scan width of four inches, the Complete Half-Page Scanner/400 (CHPS/400) can handle a wide range of originals.

The unit is nicely designed. It fits comfortably in my hand. And while each of these scanners has a roller at the front, operation of the CHPS/400 is facilitated by a back roller, which makes for better tracking.

Like the other two units reviewed here, this scanner sports a brightness adjustment and a selection of three different dithering patterns.

There was no significant difference among these three scanners in their ability to reproduce line art, but the CHPS/400 unquestionably provided the best scans of photographs. This is partly because the LEDs (light-emitting diodes) used to illuminate the original give off a yellow-green color instead of red (used by the others), producing better results from color originals. Another performance plus is the wide range of brightness adjustment. Scanned images tend to come out darker than the original; the other units tested often didn't provide enough leeway on the light end of the spectrum.

The *SmartScan* software that comes with this unit (and The Complete Hand Scanner, reviewed below) does a good job of capturing and manipulating images. You can crop the captured image, rotate it, magnify or reduce it, erase sections, or edit a dot at a time with an 8× display.

The *SmartScan* installation program deserves special praise. The scanner card may conflict with other equipment installed in your computer. This program tests for such conflicts and tells you how to resolve them.

#### The Complete PC Hand Scanner/400

**RATING:** ★ ★

This scanner is similar to its big cousin, The Complete Half-Page Scanner/400, in many ways, but as you might expect from its smaller size and price tag, it has some com-

parative weaknesses.

Its scanning width, for example—2.5 inches—is a significant limitation; it's inadequate for much beyond logos, signatures, and small illustrations. On the other hand, the *SmartScan* software does enable you to capture images up to 14 inches long.

The Complete Hand Scanner/400 (CHS/400) was the least successful of the three units at accurately reproducing photographs. Part of the problem is that a red LED is used to scan the image—which means the scanner cannot pick up red areas of your original; it reads them as white. If you scan the American flag, for example, the stripes disappear. Similarly, flesh tones are not rendered very successfully. If you choose this unit, my advice is to stick with black-and-white originals or make a good photocopy of a color original and scan that.

Its line-art scans were comparable to those of the company's larger unit, which is to say very good indeed.

#### Logitech ScanMan

**RATING:** ★ ★ ★

The ScanMan offers a scanning width of just over four inches in a light, compact unit. It produced very good results with line art, and was only marginally better than The Complete Hand Scanner/400 in reproducing photographs. Like the CHS/400, the ScanMan uses red LEDs for illumination and has a problem capturing color originals—red is picked up as white.

The software provided with ScanMan is excellent. In fact, the unit comes with four different scanning programs. *PaintShow*

## THREE HAND-HELD SCANNERS: A SIDE-BY-SIDE COMPARISON

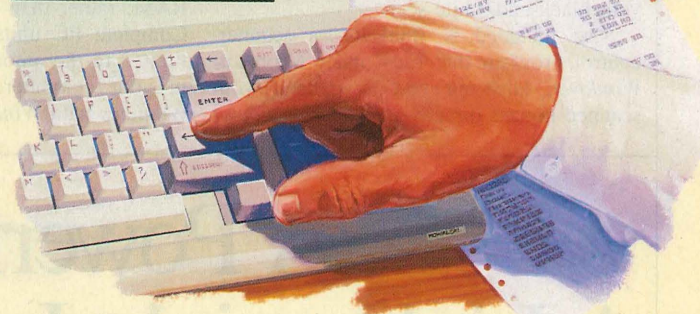
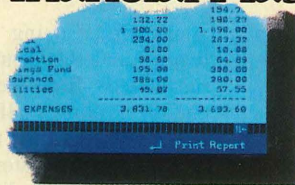
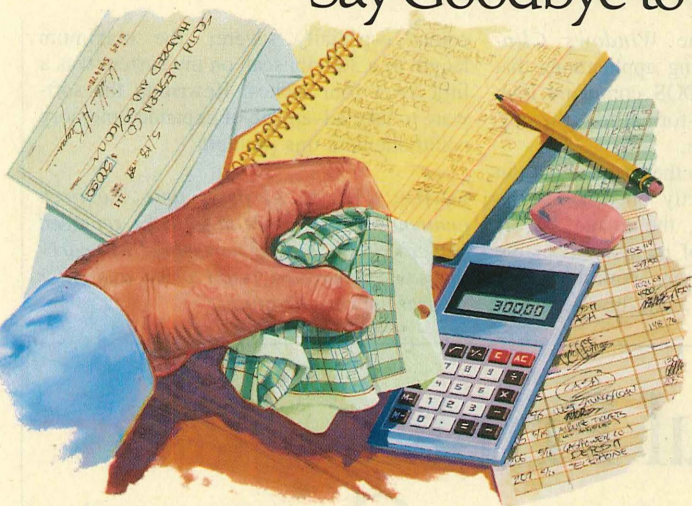
	The Complete Half-Page Scanner/400	The Complete Hand Scanner/400	ScanMan
<b>Manufacturer</b>	The Complete PC 521 Cottonwood Dr. Milpitas, CA 95035 (408) 434-0145	The Complete PC 521 Cottonwood Dr. Milpitas, CA 95035 (408) 434-0145	Logitech, Inc. 6505 Kaiser Dr. Fremont, CA 94555 (415) 795-8500
<b>Suggested Retail Price</b>	\$299 <sup>1</sup>	\$249	\$309 <sup>2</sup>
<b>Rating</b>	★★★	★★	★★★
<b>Hardware Requirements<sup>3</sup></b>	IBM PC/XT/AT or compatible with 512K of RAM <sup>4</sup>	IBM PC/XT/AT or compatible with 512K of RAM <sup>4</sup>	IBM PC/XT/AT or compatible with 256K of RAM <sup>5</sup>
<b>Scanning Area (inches)</b>	4.1 by 14	2.5 by 14	4.1 wide <sup>6</sup>
<b>Resolution (dots per inch)</b>	200/300/400	200/300/400	100/200/300/400
<b>Gray-Scale Levels</b>	16	16	32
<b>Dithering Patterns</b>	3	3	3
<b>Software Included</b>	<i>SmartScan</i>	<i>SmartScan</i>	<i>PaintShow Plus</i> , <i>Scanware</i>
<b>File Formats Supported</b>	.CUT, .IMG, .MSP, .PCX, .TIF	.CUT, .IMG, .MSP, .PCX, .TIF	.MSP, .PCX, .TIF
<b>Dimensions (inches)</b>	5.5 by 5.25 by 1.25	4.75 by 3.5 by 1.5	5.3 by 3.6 by 1.3
<b>Warranty (years)</b>	Two	Two	One
<b>Options</b>	Optical Character Recognition software (\$295)	Optical Character Recognition software (\$295)	None

**KEY:** <sup>1</sup>Macintosh version available for \$499. <sup>2</sup>Macintosh version available for \$499; IBM PS/2 version available for \$369. <sup>3</sup>All scanners require a hard-disk drive, CGA, EGA, VGA, or HGC, and MS-DOS 2.1 or higher. <sup>4</sup>640K recommended. <sup>5</sup>Need 640K to use *WinScan*. <sup>6</sup>Length determined by available RAM; maximum 14 inches. CUT = *Dr. Halo* file; .IMG = GEM file; .MSP = *Windows Paint* file; .PCX = *PC Paintbrush* file; .TIF = TIFF file.



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Quicken is available at most computer and software stores.



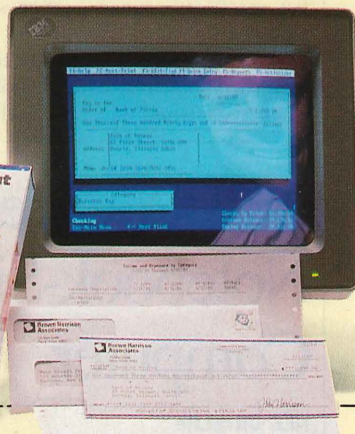
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Plus is a full-featured, mouse-based graphics application that includes many standard PC paint-program tools, such as line drawing, graphic fills, text entry, and cut and paste for selected sections. This program is especially useful if you want to add color to your black-and-white scan.

Also included is WinScan—a scanner-control program that runs under Microsoft Windows, allowing you to transfer your scanned images directly into other Windows

applications using the Windows Clipboard—and two scanning applications that run directly from the DOS command line: one for creating a TIFF-format file, the other for a PCX-format file.

Since ScanMan stores the scanned data in RAM, rather than directly on disk as The Complete PC units do, the image size is limited to the amount of memory available in your computer. When working under Windows with WinScan, this limitation be-

comes especially severe; the maximum length of a 300-dpi scan on my system was a little over four inches. Rewriting the software to take advantage of expanded memory could alleviate this problem.

**EDITOR'S NOTE:** At press time, Logitech announced that ScanMan is to be replaced by ScanMan Plus. The new model will carry the same suggested retail price and offer several improved features.

# A Powerful Printer, A Lightweight Laptop, a Compact Copier, a Top-Notch Telephone

## About Our Reviews and Ratings

Each month, HOME-OFFICE COMPUTING's Hardware Reviews take an in-depth look at new and worthwhile computers, peripherals, fax machines, copiers, phones, and other hardware.

Our reviewers set up the equipment in their own home offices. After heavy use and extensive testing, they rank each item on the

basis of suitability for the home office and on overall value, taking into account performance, features, ease of setup, ease of learning and use, documentation, size, expandability/versatility, support, availability, warranty, and value for the money.

Then, the HOME-OFFICE COMPUTING Hardware Testing Lab conducts its own battery of tests (a printer speed test, for exam-

ple) and verifies manufacturers' specifications. Finally, our technical editors weigh the reviewers' rankings, the lab test results, and their own experience to determine an overall rating on a scale of zero to four stars:

○	Poor	★★★	Very Good
★	Average	★★★★	Excellent
★★	Good		

## Full-Powered, Notebook-Size Computer

### NEC UltraLite

NEC Home Electronics, 1255 Michael Dr., Wood Dale, IL 60191; (312) 860-9500

**RATING:** ★ ★ ★

**SUGGESTED RETAIL PRICE:** \$2,599

**MICROPROCESSOR:** NEC V-30 (4.92/9.83 MHz)

**MEMORY:** 640K

**STORAGE DEVICE:** 1MB "silicon hard disk"

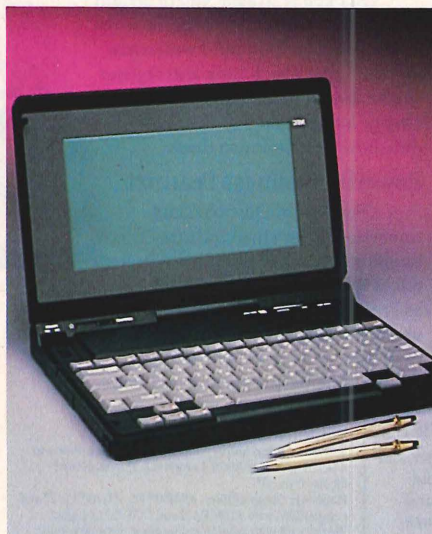
**DISPLAY:** Supertwist backlit LCD (CGA)

**PORTS:** One serial (cable included), one floppy-disk drive, one for ROM/RAM card, two RJ-11 for modem

**OTHER HARDWARE INCLUDED:** 2400-bits-per-second (bps) modem

**SOFTWARE INCLUDED:** MS-DOS 3.3, LapLink v. 2.16a

**OPTIONS:** System with 2MB silicon hard disk (\$3,199); software ROM cards (from \$400 to \$500); 256K RAM card (\$299); 3.5-inch 1.44MB



external floppy-disk drive with parallel port (\$399); carrying case (\$129)

**DIMENSIONS:** 11.7 by 8.3 by 1.4 inches

**WEIGHT:** 4.4 pounds (with batteries)

**WARRANTY:** One year

Laptop computers have become amazingly powerful over the past couple of years. They've acquired hard-disk systems, more

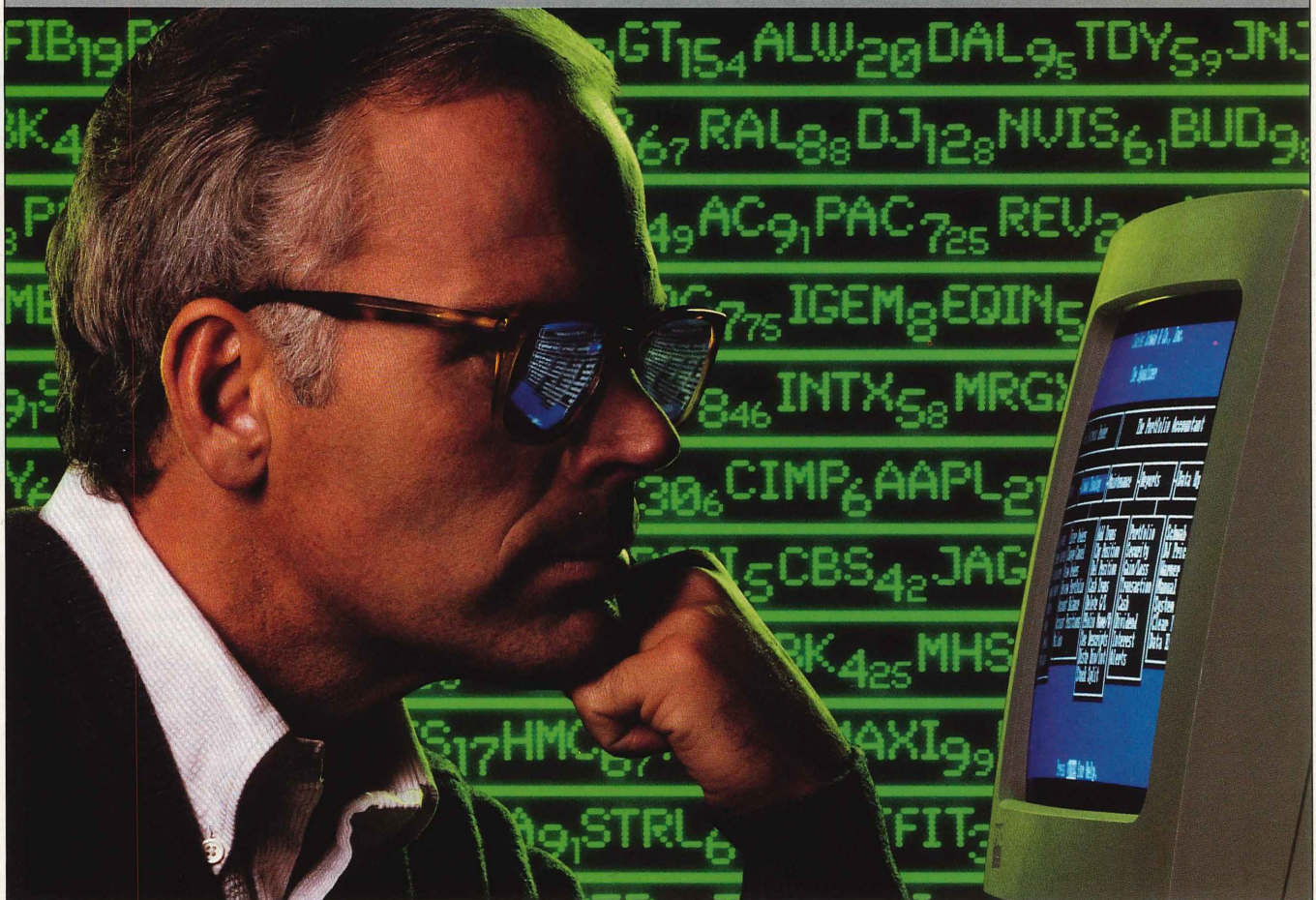
memory, faster microprocessors, and more readable screens. In fact, they're getting to be like diminutive desktop PCs.

The NEC UltraLite, however, turns sharply back to the tradition established by the pioneer portables (or notebook computers), like the Tandy TRS-80 Model 100, a wonder-toy that nestled in the laps and briefcases of many people five or so years ago. Five years of technical development make the UltraLite a much more powerful and versatile instrument than the first-generation notebook computers, and it's capable of running most current IBM PC software.

At 4.4 pounds, the UltraLite is currently the lightest, most convenient full-powered MS-DOS laptop available—small enough to slip into any bag or briefcase, ready for that meeting, flight, or research session. But it does not pretend to be the only computer system you'll ever need; it is designed as a mobile extension to your desktop computer. It needs to "dock" regularly to load and unload files.

The UltraLite is remarkably lightweight because it has no disk drives—at least not the usual kind. The main storage device, dubbed by NEC a "silicon hard disk," is essentially a bank of RAM chips with a



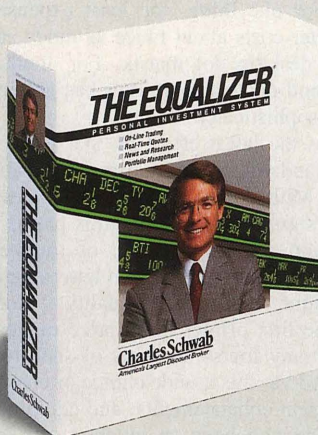


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special battery that keeps the memory alive when the computer is turned off. The standard complement is 1MB; a system with a 2MB hard disk is available for \$3,199. For those used to 20MB or 40MB, this isn't much; but, with planning, it's workable.

There are several ways to load software into this computer. There is a slot that accommodates "application ROM cards" (cards containing all the code for particular software packages). These ROM cards are currently available for some popular packages such as Lotus 1-2-3, WordPerfect 5.0, and XyWrite III Plus. The beauty of this system is that software doesn't take up any of the limited "hard disk" space. For software that isn't available on ROM cards, NEC provides a (battery-backed) 256K RAM card that fits in the same slot.

Another option is to actually add a disk drive. NEC offers a 3.5-inch 1.44MB external floppy drive (1.78 pounds) that plugs into the back of the computer. The UltraLite can share information with other computers via a built-in 2400-bps modem or through the serial port using Traveling Software's LapLink system (included in the system's ROM). These tools make it quite easy to swap files with a desktop computer. Unfortunately, the version of LapLink included isn't the latest (where the laptop can control the entire transfer process); UltraLite users will have to install LapLink on their desktop computer as well.

The UltraLite is based on the NEC V-30 microprocessor (equivalent to the Intel 8086), which runs at either 4.92 or 9.83 MHz. It has the full DOS complement of 640K of RAM.

Considering the compactness of the computer, the keyboard is surprisingly comfortable. The keys are full-size, and the layout makes relatively few compromises beyond the almost-inevitable embedded numeric keypad. (There are 12 full-fledged function keys.) Keystroke depth is shallow, but overall the touch is responsive. The blue, super-twist, backlit LCD screen is readable in most lighting conditions.

The most serious shortcoming of the UltraLite is probably its power supply. Working time is limited to about two hours on one recharge of the internal batteries. Recharging takes six to eight hours. You can, however, run the computer off AC while the batteries recharge. Help is on the way. NEC reports that replaceable batteries will be available by press time.

Battery life (for the moment) and storage space are two clear limitations of the UltraLite. But for those who need a truly portable computer, the trade-offs are worth it. This is a computer that can go just about anywhere—and do serious work.

—CHARLES BERMANT  
CIRCLE READER SERVICE 101

## An Affordable Printer with a Bundle of Fonts

### Star Micronics XB-2410 Multi-Font

Star Micronics America, Inc., 200 Park Ave., Suite 3510, New York, NY 10166; (212) 986-6770

RATING: ★ ★ ★ ★

SUGGESTED RETAIL PRICE: \$749

HARDWARE REQUIREMENTS: Any computer with parallel port and cable

TYPE: 24-pin impact dot matrix

PRINT SPEEDS (PICA): Draft: 200 characters per second (cps); letter quality: 67 cps; super letter quality: 33.5 cps

BUILT-IN FONTS: 14 (7 of which are available in letter quality), including 2 optical character recognition, 1 bar-code

BUILT-IN EMULATIONS: Epson LQ-1050, NEC graphics, IBM Proprinter XL24

GRAPHICS RESOLUTION: 360 by 360 dots per inch (dpi)

OPTIONS: Sheet feeder (\$160); color kit (\$50); serial interface with 8K of RAM (\$100)

PAPER HANDLING: Friction and push tractor

PAPER WIDTH: Continuous form: 4 to 10 inches; single sheet: 5.5 to 8.5 inches

BUFFER: 27K

DIMENSIONS: 17.8 by 13.4 by 5.5 inches

WARRANTY: One year

Laser printers are finding their way into more and more home offices, especially as their prices drop. Yet for those who don't really need desktop-publishing quality, the familiar dot-matrix printer is still a great choice. For one thing, the least expensive laser printer costs about twice as much as a high-end desktop dot matrix. For another, the high-end dot-matrix printer has gotten a lot more sophisticated.

Witness the latest effort by Star Micronics: the standard-carriage, 24-pin dot-matrix XB-2410 Multi-Font. As the name suggests, the most significant aspect of this printer is its selection of fonts; a total of fourteen, seven of which are available in letter quality and a unique "super letter quality" mode. This is the first printer in its price range to offer so many fonts—or fonts of such high quality. Add to this a wide choice of character sets, print enhancements, and equipment options and you have an inventory of features exceeding that of any of the XB-2410's competitors.

The most striking physical feature of the 2410's streamlined low-profile enclosure is the wide control panel with its six buttons and 19 status lights. Through the control panel, I was able not only to change font and pitch selections on the fly, but also to



access the printer's unusual interactive menu—submenu program for setting the printer's defaults. This system, which works very much like the Lotus 1-2-3 menus, makes setting up the printer a snap. The XB-2410 is also armed with five print and diagnostic tests for users who want to put the machine through its paces.

After I customized and tested it, I put the printer to work and found no cause for disappointment (even though I do most of my printing with a laser printer). The XB-2410's output looked mighty good. As mentioned there are built-in fonts galore. The super letter quality mode is so crisp that I couldn't distinguish individual dots even with an 8× magnifier. All text fonts are available in a variety of forms (fixed, proportional, outline, shadow, italic, condensed, subscript, and superscript, for example), making for dozens of type styles. Also supplied are two optical character recognition fonts and a bar-code font. Wow!

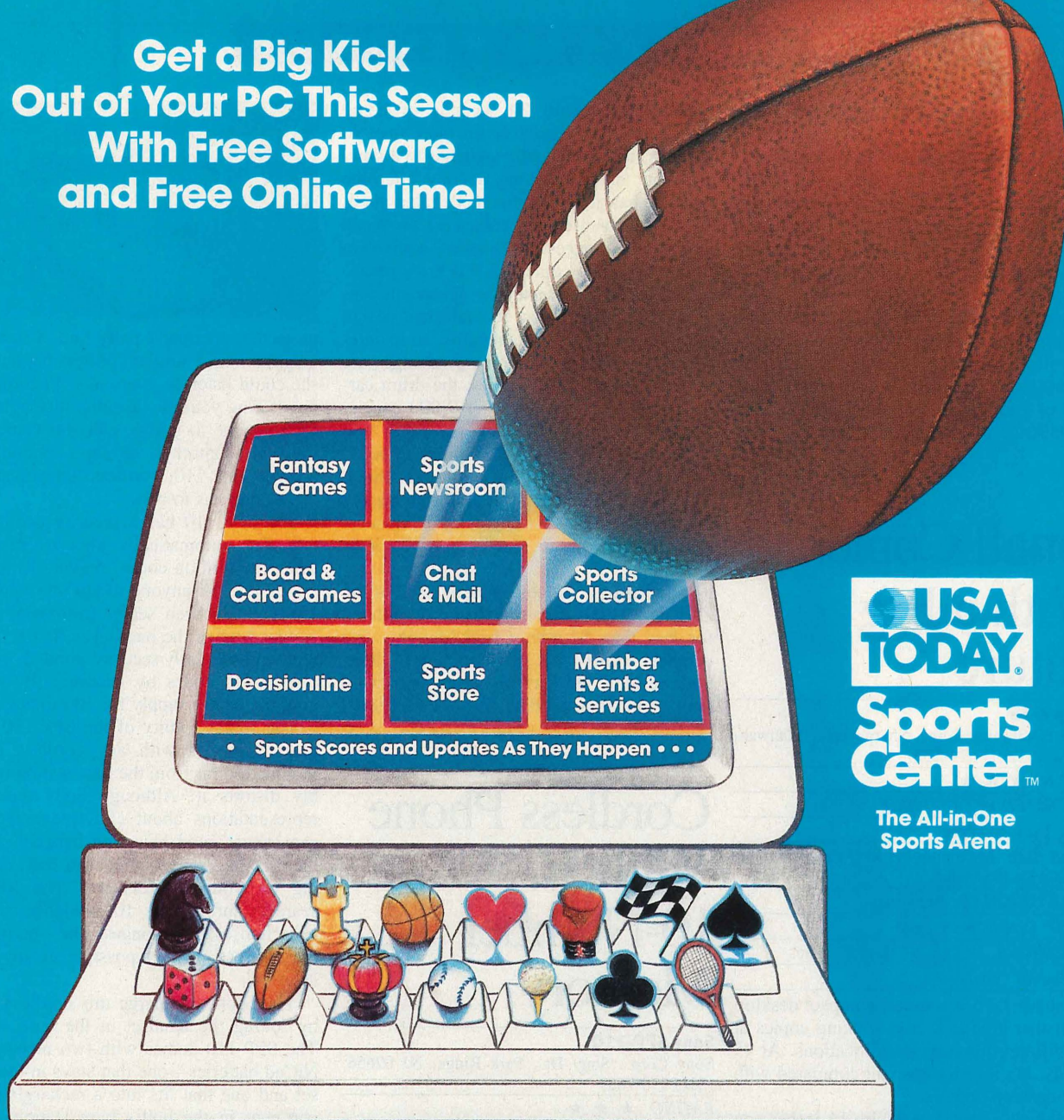
Printing speeds for the XB-2410 are satisfactory; you won't fall asleep waiting for your document—although, you would be more likely to fall asleep using this printer than you would using other comparable dot-matrix models, since the manufacturer claims it is the quietest in its price-performance category (49 decibels).

By making multiple passes, the XB-2410 achieves a graphics printing resolution (360 by 360 dpi) that exceeds that of most laser printers. Laser printing looks a bit cleaner despite the resolution disadvantage, but the XB-2410 does print fine details (of, say, graphs or drafting designs) with considerable clarity.

The sheet feeder is one of the least expensive, most sensibly designed, and easiest to install I've seen. No electrical connections are required. You merely set the unit on the printer's carriage, program the printer to know it's installed, load up to 120 sheets of paper, and go to work. You can run the feeder automatically, or feed individual sheets manually. If you wish to use continuous (fanfold) paper while the sheet feeder is



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installed, no problem: Just release the unit's paper-feed lever.

The manual gave me all the information I needed to get the printer set up and working. (Though adequately illustrated, the manual is written in dull, stilted language.) The one-year warranty and toll-free technical-support line add up to good customer support.

I was impressed with this printer's rational design, with its performance, and, above all, with its profusion of fonts and outstanding print quality. The XB-2410 offers a full plate of goodies, and at street prices (\$425 to \$450) it's a bargain and a half.

—HENRY F. BEECHHOLD

CIRCLE READER SERVICE 102

## Small Copier With a Big Future

### Sharp Z-75

Sharp Electronics Corp., Sharp Plaza, Mahwah, NJ 07430; (201) 529-8200

**RATING:** ★ ★ ★

**SUGGESTED RETAIL PRICE:** \$1,700

**TYPE:** Desktop copier

**PAPER SIZE:** Maximum 8.5 by 14 inches; minimum 8.5 by 5.5 inches

**PAPER CASSETTE:** 100 sheets

**SPEED:** 8 pages per minute

**DIMENSIONS:** 18.5 by 10 by 17.3 inches

**WARRANTY:** 90 days

The Sharp Z-75 is a quiet, compact desktop copier that produces crisp-looking copies at four different (preset) magnifications. At 45 pounds, it's also lightweight compared with other desktop copiers.

Originals as large as 10 by 14 inches can be copied onto legal-size or smaller paper. A bypass feed slot allows copying on index cards, transparency film, and labels. The Z-75, by the way, doesn't have a document feeder.

The Z-75 warms up quickly and can pro-



duce copies within 20 seconds of being turned on. If it is inactive for more than 90 seconds, it automatically switches to a power-saving mode. Making a copy after the machine has gone into this mode takes about 15 seconds; subsequent copies are produced at a rate of 8 pages per minute—equivalent to other desktop copiers in this price range.

The copier uses separate, replaceable toner and drum cartridges. Its clamshell design allows easy access to its innards, so maintenance is a breeze. The toner cartridges are good for about 3,000 copies; the drum cartridge must be replaced after 9,000 copies. This translates to about \$.06 per copy.

Designed for a moderate volume of copying, the Z-75 is not a heavy-duty machine. The control panel has a button for increasing the desired number of copies by increments of ten; the maximum, however, is 50 copies at a time.

Although the suggested retail price of the Z-75 is \$1,700, it can be found discounted for less than \$1,000. Check out this fast personal copier—it's small enough to fit on your desktop and may be big enough to fill your duplication needs. —STEVE USDIN

CIRCLE READER SERVICE 103

## Cordless Phone With 10-Number Memory

### Sony SPP-110

Sony Corp., Sony Dr., Park Ridge, NJ 07656; (201) 930-7669

**RATING:** ★ ★ ★

**SUGGESTED RETAIL PRICE:** \$249

**TYPE:** One-line cordless

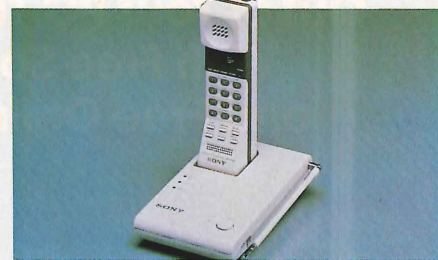
**FEATURES:** Pulse and tone dialing; last-number redial; 10-number memory; security coding system

**DIMENSIONS:** Base: 5.25 by 8 by 2 inches; handset (including antenna): 2 by 2.4 by 14.5 inches

**WARRANTY:** One year

In a home-office environment, a cordless telephone can be a blessing. Freedom to move about your work area is just one of the benefits cordless phones offer. In the middle of your busy workday, you may have to tend to family-related duties while conducting business. A cordless telephone permits you to maintain your professional demeanor while you check the roast.

Early cordless models had poor sound quality; voices tended to fade if you moved as little as 15 or 20 feet from the base. A more serious drawback was that the transmission signal emitted by the phone was not



protected, creating a party line of sorts. If a neighbor had a similar cordless phone, he or she could listen to your calls. In addition to monitoring your phone calls, it was possible for someone to initiate calls on your phone line with another cordless phone. The Sony's SPP-110 cordless telephone puts these concerns to rest.

The SPP-110 has a security coding system that automatically chooses randomly from one million codes, making it virtually impossible for anyone to tap into your line. The code is even secret from you; one is assigned when the handset is first set up. If you're particularly security-minded, you can change the codes by occasionally unplugging the power supply for 10 minutes or so.

The sound quality of the SPP-110 is excellent, but as with any cordless phone, moving too far from the base station inevitably distorts it. Although Sony makes no representations about effective range, you can expect good reception between several hundred and several thousand feet, depending on your environment. The SPP-110 searches through its 10 available channels and chooses the strongest one—giving you the clearest channel possible at any given location.

You don't recharge this cordless phone by setting the handset in the base station. The SPP-110 comes with two rechargeable NiCad batteries—one that stays in the handset and one that fits into a recharging compartment in the unit's base station. When the battery in the handset runs down, just replace it with the one that's been sitting in the base station. Batteries last from 12 to 20 hours of talking time.

The SPP-110 has a 10-number memory for automatic dialing of frequently called numbers. Numbers can be programmed to switch from pulse to tone during dialing (necessary) when using a long-distance service that requires tone access codes, for example). A button that redials the last number called is another handy feature.

The handset is light and comfortable, but the rubber antenna that sticks out of the top is bothersome. Slate-gray controls (which break up the beige monotony of the rest of the unit) are a nice touch—they're designed so that you can operate them with one hand. Overall, the SPP-110 is a first-rate cordless phone.

—STEPHEN MILLER

CIRCLE READER SERVICE 104



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## From Writing Your Own Programs to Modifying Existing Software, Here's the New, Easy, and Low Cost Way to Unlock the Secrets of Your Computer

Whether you use computers for business, for personal applications, or for fun, off-the-shelf programs will never do everything you want them to do for you. That's because they were written by programmers to satisfy what they perceived as the needs of the greatest number of potential users—often missing some or many of your specific needs.

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Make no mistake. Almost all books and courses on "programming" teach you only the final 5% of the total programming process—namely, how to code in a specific language... information of little value if you don't know how to reach the point in the programming process when you are ready to code.

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BY MARIE ALVICH

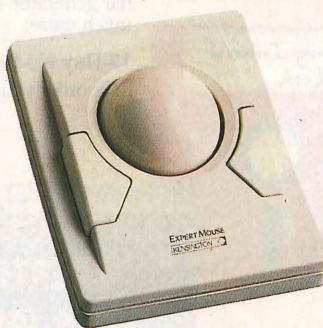
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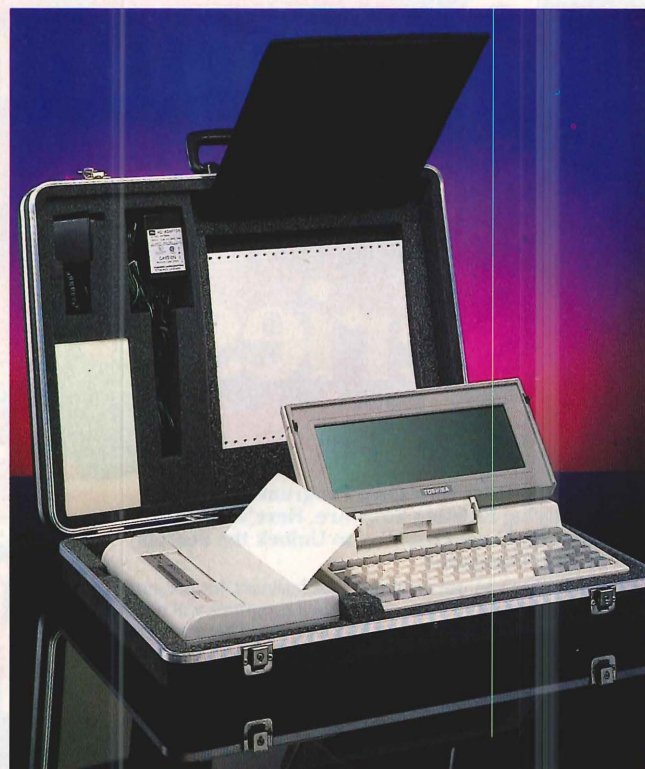
**An Intelligent Mouse.** This two-button track ball is useful for graphics and CAD/CAM work. Using advanced optical technology, the *Expert Mouse* increases your precision, giving you more control positioning the cursor. For IBM PS/2s and compatibles. \$170. Kensington Microware Ltd., 251 Park Ave. S., New York, NY 10010; (800) 535-4242; (212) 475-5200 in New York.



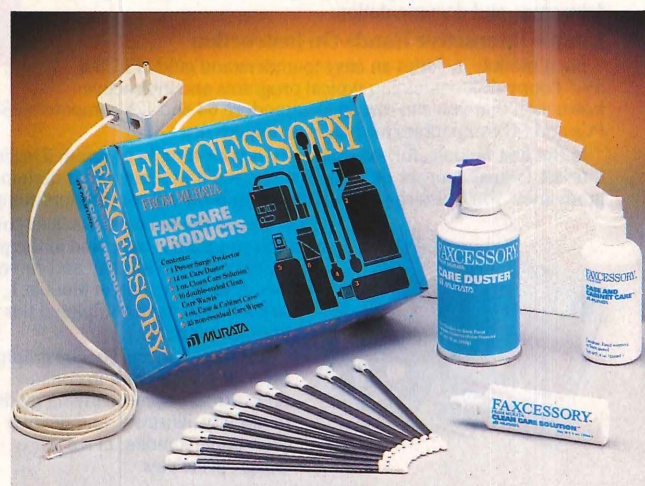
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# Two Programs for Serious Telecommunications

## Plus: High-Powered Presentations, Lightning-Fast Searches, And More

Our reviews of application software use shorthand to describe several of the details associated with any package. This is particularly true under "System Requirements"—where the minimum system configuration is noted—so we have provided the following table of computers for you to refer to as needed. Hardware, software, and memory are required unless noted as "recommended" or "optional." When more than one computer is listed under "System Requirements," the machine marked with an asterisk (\*) is the type on which the software was reviewed. Requirements are *not* listed where obvious (for instance, printers with word processors or modems with communications programs). Operating system requirements, such as MS-DOS or the Macintosh System file, are listed only when they're not the standard, minimum requirement (DOS 2.0 for IBM PC or compatibles, System 3.2 for the Macintosh, or ProDOS for the Apple II). For those computer systems that can use both 5.25- and 3.5-inch disks (IBM PC and PS/2 or the Apple II), we've listed only those disk sizes that are either supplied with the software or available at no extra cost from the publisher. Since most productivity software is not copy protected, we have indicated—with the letters "CP"—only those programs that are copy protected. The version listed is the version reviewed; publishers may release subsequent versions at any time.

Designation	Models
128K Apple	IIe/IIc/IIgs (in IIe/c mode) and compatibles
128Ke Apple	IIe (enhanced ROM)/IIc/IIgs (in IIe/c mode)
Apple IIgs	IIgs only
IBM PC, PS/2	PC/XT/AT, PS/2 and compatibles
128K Macintosh	128K/512K/512Ke/Plus/SE/II
512K Macintosh	512K/512Ke/Plus/SE/II
512Ke Macintosh	512Ke/Plus/SE/II
1MB Macintosh	Plus/SE/II

**Ratings Key:** ○ Poor; ★ Average; ★★ Good; ★★★ Very good; ★★★★ Excellent.



*Mirror III opens up the world of telecommunications to the new user. Alt-key shortcuts are conveniently displayed at the bottom of the screen.*

## Reasonably Priced Modem Software

### Mirror III

VERSION REVIEWED: 1.0

SYSTEM REQUIREMENTS: 384K IBM PC, PS/2 (640K recommended for background operation); one drive (hard-disk drive optional); DOS 2.0 or higher; 5.25- or 3.5-inch

PUBLISHER: Softklone, 327 Office Plaza Dr., Tallahassee, FL 32301; (904) 878-8564

PRICE: \$100

OVERALL PERFORMANCE: ★ ★ ★

DOCUMENTATION: ★ ★ ★

ERROR HANDLING: ★ ★ ★

EASE OF USE: ★ ★ ★

SUPPORT: ★ ★ ★

You haven't really lived until you've seen the welcoming message that means your computer has linked with another computer somewhere far away. For some people, telecommunications is baffling rather than exciting. It doesn't have to be. Using *Mirror III* is a good way for novices to learn the nuances of telecommunications—without being intimidated.

*Mirror III* has a similar feel to *Crosstalk XVI*, a popular communications program that's noted for power rather than ease of use. Like *Crosstalk*, *Mirror III* relies primarily on commands, rather than menus, for operation. Typing either Load or Do brings up a menu of available commands for setting parameters such as parity and baud rate or for answering prompts from a remote computer system that you log on to.

Like the *Crosstalk* series (see *Crosstalk Mk.4 review below*), *Mirror III* lets me write customized scripts (command files) in its own communications language, Prism. Scripts are miniprograms that automate frequently performed tasks. For example, I wrote a set of procedures to automatically check each of my electronic mailboxes and save the contents to appropriate files. I just type one command—magic.

Although Prism's manual includes 12 lessons, those unfamiliar with the fundamental concepts of computer programming will find the language difficult to use. I can write simple programs in BASIC, Pascal, and Modula-2, and while it takes practice to pick up any new language, I found Prism harder than most.

Parity, duplex, and other telecommunication parameters that usually befuddle most new users are taken care of by *Mirror III*. Changing parameters after installation, even during communication, is no more difficult than scrolling through the status screens and typing a command; for instance, SP 2400 changes the speed to 2400 bps. *Mirror III* supports or emulates almost every modem, data-transfer protocol, data terminal, and command structure in existence. I can even program the function keys to duplicate all of the features of my old communications software without sacrificing any of *Mirror III*'s power.

*Mirror III* includes ready-made sign-on procedures for Dow Jones, CompuServe, and nine other popular on-line services and a dialing directory that automatically learns log-on commands as you enter them.

While receiving or transmitting files with any of five different protocols and their variants (such as XModem, Kermit, and CompuServe Quick B), you can switch *Mirror III* into background operation mode and run any program that will fit in the remaining memory. When I minimized the space required for *Mirror* to capture files in memory—I prefer to capture data in a disk file—*Mirror III* required only about 300K, leaving me room to run my word processor (*WordStar*), but not my database (*Reflex*).

Combining ready-made scripts with the homegrown variety makes for the most flexibility. If I give my mailbox-checking procedures similar names (MCIBOX, CSRVEBOX, and so on), I'm able to tell the dialer to



carry out all scripts with BOX in the title, then sit back each morning and enjoy breakfast while *Mirror III* collects all of my electronic mail. Scripts are written and stored in a text format, but they can be put in an encoded format that only the computer can read. That way, others who might also use your computer won't be able to change scripts you've perfected.

*Mirror III* includes several levels of password protection that can be used, for instance, if I want to access my computer from a remote location. I may want to delete and change files on my computer in New Orleans while I'm vacationing in Denver, but I may not want others to have the same privilege. I can also create a password that gives callers only limited access—for example, they may be able to view files, but not change them. *Mirror III* also lets me assign individual passwords to people who call my computer regularly and give password holders different degrees of access.

*Mirror III* comes with a user's guide and a Prism programming manual. The user's guide includes two different start-up chapters, one for experienced users and the other for novices. The section on telecommunications basics is especially good, and the information about hardware transfers—connecting two computers without using a modem—is clear. The user's guide, however, has no tutorial. Both manuals have a command summary section and a good index. *Mirror III* also has a menu-driven, on-screen help file. Not interactive, it consists primarily of a list of commands and short descriptions of each. Some features, such as the dialing directory, aren't documented at all—although it, at least, is mentioned during the installation procedure.

Error handling earns high marks for reminding me that I haven't saved information that's left in memory when I type Quit. Also, if I forget to turn off the automatic log feature (called Capture), the program will let me know that my data file is still open and that the information I meant to save on disk will be lost.

Nevertheless, many aspects of *Mirror III*'s operation are practically foolproof, especially the setup procedure. Installation is completely automated, including modem switch settings and dialing prefixes as well as simple file copying. The program is easiest to install and use from a hard-disk drive, but if a 360K floppy is the best you can do, the installation program recommends which files to copy to the disk for optimal performance. The setup program can be run whenever changes are necessary. There's also the New User file that makes starting out on services such as CompuServe and MCI Mail a breeze. All you need to know is the service's phone number, your account number, and your password.

I did have problems with some of the features meant to make *Mirror III* easy to use. Somehow I accidentally modified the dialing directory so that each time I loaded it, it automatically dialed the Softklone (publishers of *Mirror III*) bulletin-board telephone number instead of letting me specify which numbers I wanted to call. Since this is one of *Mirror III*'s undocumented script features, I had to call technical support to solve the problem. This meant a toll call, since Softklone doesn't have an 800 number. However, my call was answered quickly.

If communications software offers too little help, the new user flounders; too much help, and the experienced user feels bogged down in menus. *Mirror III* is more likely to frustrate the novice than the veteran modem user, but most people will be able to learn to use this program quickly. Much of *Mirror III*'s strength is in its programmability, so those who have dabbled successfully in computer programming will get the most for their money.

—TAN A. SUMMERS

## The Bentley of Communications Programs

### Crosstalk Mk.4

VERSION REVIEWED: 1.1

SYSTEM REQUIREMENTS: 384K IBM PC, PS/2; one drive (two drives recommended); DOS 2.0 or higher (Windows, Desqview optional); 5.25- or 3.5-inch

PUBLISHER: Crosstalk Communications, 1000 Holcomb Woods Pkwy., Roswell, GA 30076; (404) 998-3998

PRICE: \$245

OVERALL PERFORMANCE: ★ ★ ★ ★

DOCUMENTATION: ★ ★ ★ ★

ERROR HANDLING: ★ ★ ★ ★

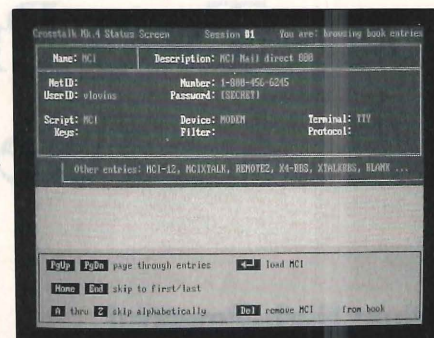
EASE OF USE: ★ ★ ★

SUPPORT: ★ ★ ★

Hayes modems and *Crosstalk* software grew up together, each establishing standards followed by other manufacturers. The first versions of *Crosstalk* ran under CP/M—the now all-but-defunct operating system that predated MS-DOS/PC-DOS—and offered a wealth of telecommunications features.

*Crosstalk Mk.4* has matured. It still has many useful features and has expanded into a large, modular, multifunctional program. But *Crosstalk Mk.4* is not for novices. It is so rich, in fact, that only those who are involved in intense and frequent communications—like legal or medical researchers—will be able to fully capitalize on the program.

To avoid overwhelming newcomers,



With *Crosstalk Mk.4*, your telecommunications are limited only by your imagination. Here, the program displays telephone-book entries.

*Crosstalk Mk.4* starts in a menu mode. You can stay with menus as long as you like, but to expedite things, you can use Alt-key combinations or command-line entries. Press Alt-U or type Upload on the command line, for example, and the Upload Panel appears.

Another problem solver is the Learn Script feature, a program generator that will automatically create a script. Scripts are miniprograms, or macros, that automate special tasks, such as dialing, logging on, and entering your password for an on-line service like CompuServe. They are written in CASL (Crosstalk Application Script Language), a fully developed, high-level programming language similar to Pascal.

I used the Learn feature to write the script for automatically dialing CompuServe and logging on. As I typed the required key sequences, I watched Learn—in a small pop-up window—actually writing the program. Since scripting can be one of the more off-putting aspects of telecommunications, *Crosstalk Mk.4*'s automated approach has great appeal and utility. At each prompt, you merely enter your CompuServe ID number and your password for example, and Learn learns.

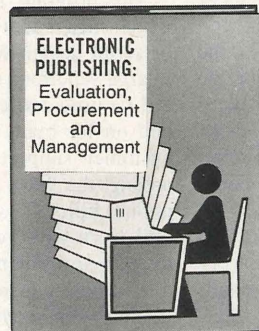
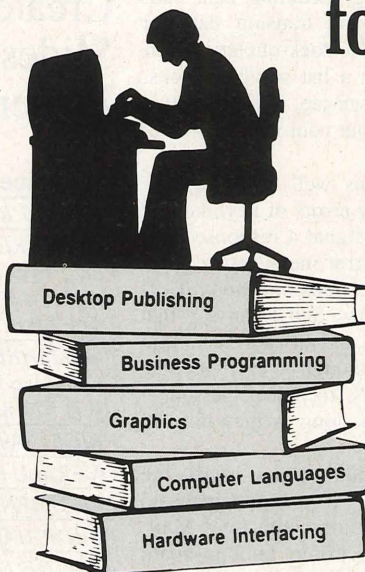
After a few Learn sessions, you'll get the hang of script writing and, with some guidance from the first-rate manuals, will be able to jump right into the *Crosstalk Mk.4* editor, where you can stitch together your own scripts without Learn's intervention.

*Crosstalk Mk.4* can manage up to 15 concurrent sessions (with multiple window monitoring) using two or more modems. And it integrates a feature that is both innovative and potentially quite useful: The program can connect to as many as 15 different on-line services at once through a single modem. You accomplish this feat by calling a local access number, which will connect you to the various on-line networks. One way to use this feature might be to call three different services and download all your electronic mail at once, although you may have problems doing this with a 384K



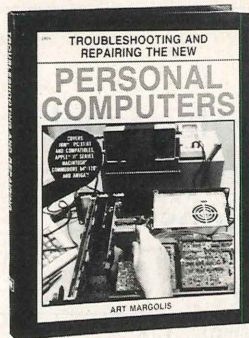
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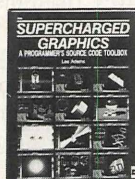
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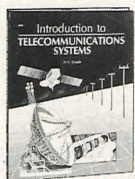
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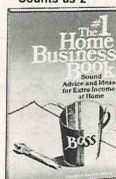
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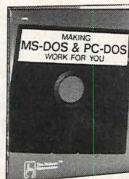
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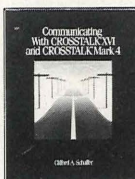
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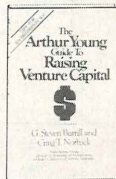
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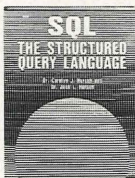
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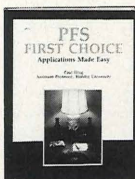
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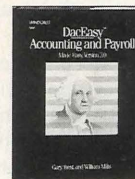
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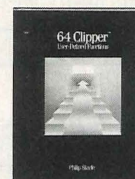
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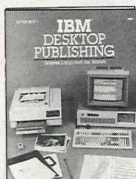
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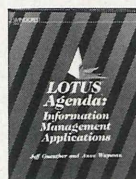
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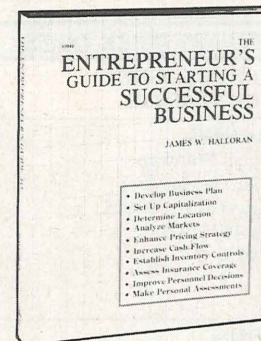
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computer.

*Crosstalk Mk.4* provides a multitasking environment through its own windowing system, but it will run under Microsoft *Windows*, *Desqview*, and other multitasking environments as well.

The Review function provides a buffer for as much as 64K, or about 100 pages, of incoming (captured) data, which lets you locate material already vanished from the screen. You can scroll through the file, go to a particular line, or find a specified word or phrase. You can even mark a block of text to be saved under its own name. Similar actions can be performed on already stored files with the Browse function.

It would seem that a program with so many features and functions would be truly daunting. The User Guide (a book-length tutorial) and The Reference Manual, totaling 500 pages of documentation, reinforce that impression. Yet *Crosstalk Mk.4* will get you on-line within minutes of installation. And as you move beyond simple sessions with on-line services, *Crosstalk Mk.4* will easily keep up. It's unlikely that the program will ever fail to support any telecommunications activity. It will let you automate your computer as an unattended host

system for answering incoming data calls and capture, store, and transmit data; or automate access to a stock-quotation service, capture data on a list of your stocks, disconnect from the service, and print out a stock report, all without your intervention or presence.

The program seems well error trapped, which means that any errors of keyboarding or script design will signal a response from a large repertory of error messages.

I've used earlier versions of *Crosstalk* off and on for many years, and I can say that customer support is and always has been among the best. Although you'll pay the phone bill, *Crosstalk* technical personnel will work with you as long as they have to to solve a problem.

If your telecommunications needs are modest—for example, if you anticipate no more than simple sessions with MCI Mail, CompuServe, or electronic bulletin-board services, using *Crosstalk Mk.4* is like using a Bentley to go grocery shopping. At \$245, it is among the more expensive programs of its kind. But *Crosstalk Mk.4* stands out as a leader in its field, just as *Crosstalk* programs have done from their first appearance.

—HENRY F. BEECHHOLD

## Create Professional Slides and Presentations

### Freelance Plus

VERSION REVIEWED: v3.0

SYSTEM REQUIREMENTS: 640K IBM PC, PS/2; two drives (hard-disk drive recommended); EGA or VGA; mouse optional; DOS 2.0 or higher; 5.25- and 3.5-inch

PUBLISHER: Lotus Development Corp., 55 Cambridge Pkwy., Cambridge, MA 02142 (617) 577-8500

PRICE: \$495

OVERALL PERFORMANCE: ★ ★ ★ ★

DOCUMENTATION: ★ ★ ★ ★

ERROR HANDLING: ★ ★ ★

EASE OF USE: ★ ★ ★

SUPPORT: ★ ★

Just over three years ago—before Lotus purchased *Freelance* from Graphics Communications, Inc.—we reviewed the original version. We liked this powerful graphics package. It was easy to use and had superior

### SOFTWARE QUICK TAKES

TITLE/PUBLISHER PRICE/VERSION	SUMMARY	SYSTEM REQUIREMENTS	RATINGS O D EH EU S
<b>ContactMate</b> Practical Software 133 N. Garden Ave. Clearwater, FL 34615 (813) 447-3100 \$50 v1.0	Hire <i>ContactMate</i> to dial your phone, manage your appointments, and track expenses, names, and addresses. Has a few flaws, such as letting you lose data accidentally; and, since it's not RAM-resident, it can be a bit cumbersome. But if you need help getting organized and can't afford to hire somebody, this program may be able to offer you adequate assistance. —Ronni & Harry Geist	512K IBM PC, PS/2. Two drives (hard-disk drive optional). DOS 2.1 or higher. 5.25- and 3.5-inch.	★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★
<b>Pal Friday</b> Pyramid Software Technology, Inc. P.O. Box 16305 Irvine, CA 92713 (714) 832-5505 \$160 v1.2	A menu system for accessing applications with a set of business utilities, including phone dialer, address book, memo pad, calendar, and checkbook manager. Unfortunately, <i>Pal Friday</i> is not RAM-resident. Spotty error handling and unpredictable performance mar this otherwise useful program. —Henry F. Beechhold	384K IBM PC, PS/2 (640K recommended). Hard-disk drive. Modem optional. DOS 2.1 or higher. 5.25- and 3.5-inch.	★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★
<b>Better Working Word Publisher</b> Spinnaker Software Corp. One Kendall Sq. Cambridge, MA 02139 (617) 494-1200 \$60 v1.0	Solid (but low-end) word processor that is not elegant but includes a rich set of basic features. Among <i>BWWP</i> 's strengths are a spelling checker and a thesaurus, both of which are adequate and easy to use. The most noticeably absent features are mail merge, footnoting, and the ability to work on more than one file at a time. While not of professional caliber, <i>BWWP</i> does what it does efficiently. —Charles Bermant	512K IBM PC, PS/2. Two drives (hard-disk drive optional). DOS 2.0 or higher. 5.25- or 3.5-inch.	★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★
<b>Twist &amp; Shout</b> The Software Toolworks 19808 Nordhoff Pl. Chatsworth, CA 91311 (818) 885-9000 \$80 v1.06	A classic because of its solid reputation, <i>Twist &amp; Shout</i> features three programs. <i>Twist</i> lets you print sideways on fanfold paper; <i>Shout</i> makes banners; and <i>Disk Spool II</i> is a disk-based print spooler that gives you background printing capabilities. Use <i>Twist</i> or <i>Shout</i> either as stand-alones or as RAM-resident pop-up programs from within several popular spreadsheets. Good value. —Henry F. Beechhold	384K IBM PC, PS/2. Two drives (hard-disk drive optional). Mouse optional. 5.25- and 3.5-inch.	★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★

Ratings Key: O Overall Performance; D Documentation; EH Error Handling; EU Ease of Use; S Support O Poor; ★ Average; ★★ Good; ★★★ Very Good; ★★★★ Excellent

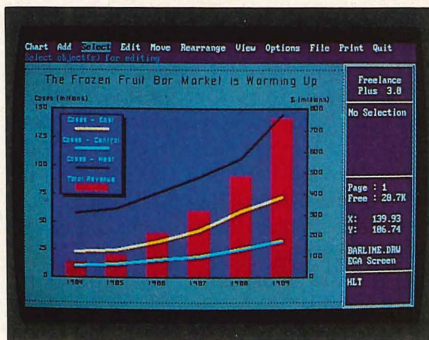


documentation. When asked to test Lotus's "new and improved" *Freelance Plus*, we were excited to see how the publisher would improve an already solid product. We were also a bit skeptical. Could it surpass the original?

Well, we're happy to report that, despite a few minor flaws, *Freelance Plus* is bigger, stronger, and faster than ever. It combines the production of charts and graphs, freehand drawings, and on-screen slide shows in a single, powerful, multifaceted package. Whether you need to create a simple pie chart, a complex graphic screen (with symbols, maps, text, and overlays), or a multislide presentation, this baby can rise to the challenge.

*Freelance Plus* is composed of three different modules: Charts and Drawings, Portfolio, and Screen Show. All use the same basic menu structure as sister products *1-2-3* and *Symphony*. Menu items can be accessed through either the keyboard or a mouse. A command menu at the top of the screen displays the available options, and a second line presents a submenu of functions. The remainder of the screen varies depending on which module you are using.

The Charts and Drawings module is where you create, edit, and customize your



Whether you want to create a simple pie chart, complex graphics, or a multislide presentation, *Freelance Plus* can meet the challenge.

graphics. An array of options is presented here, from traditional charting capabilities (12 standard graph formats are available) to design-as-you-go freehand drawing. These features are not isolated from each other. They work in tandem to let you take an ordinary business chart and enhance it (with arrows, symbols, geometric shapes, Bitstream fonts, and the like) to create professional-looking, eye-catching output.

The program comes with three disks containing hundreds of symbols, stored as files

with the extension .DRW, a Lotus format used in *Freelance* and *Graphwriter II*. These include arrows, animals, flags, geometric shapes, maps, borders, buildings, computers, currency, and human forms, just to name a few. Objects can be duplicated, rotated, flipped, and stretched, or even used to replace the bars in a bar chart, for example, you might use dollar bills in place of bars in a horizontal bar chart. With a little imagination, the sky's the limit. There is one drawback: Although the symbols are easy to modify within *Freelance*'s own drawing routine, they cannot be manipulated by other paint or draw programs.

Building a business chart is facilitated with Forms, three screens into which you enter the data, captions, and specifications for your chart (including type of chart, text attributes, and 3-D effects). Data stored in *1-2-3*, *Symphony*, *dBase*, *SYLK*, or *ASCII* file formats can be directly imported into Forms with Datalinks, a feature that lets you tie a spreadsheet to the graphic you are creating so that modifications in the data will be automatically reflected in your chart. You can also control the colors of your chart through formulas in the worksheet, showing profits in black and losses in red, for example. Charts and drawings can be saved as

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TIFF files, a common format that many other programs can utilize.

*Freelance Plus's* Portfolio helps you organize your presentation, much as you organize your ideas with an outline when preparing a report. Items are ordered and numbered (although you cannot create subcategories, as you would in an outline), and the order can easily be altered. In Portfolio you can create a list of up to 100 items, each representing a graphics screen. Each entry contains a short description of the graphic, along with its name and location (path).

Various graphics from the same presentation may reside in different subdirectories or even different drives if necessary. To help you keep track of your progress, *Freelance Plus* will display an asterisk beside the name of any graphic that still needs to be prepared. Through Portfolio, you can print up to 100 copies of each graphic at once.

With the Screen Show module, you can produce professional-looking special effects, such as horizontal or vertical sweeps, scrolls, spirals, boxes, weaves, or diagonals for your on-screen presentation. Transition

speeds and directions (up/down, left/right) can also be set. One great effect is Drip, where a screen is built up or down the screen in individual lines, much like dripping paint. Replace, another effect, overlays one screen with the next. This can be particularly effective where subsequent images build on the preceding chart. Best of all, your Screen Show need not be run under *Freelance Plus*. You can take your final presentation on a floppy disk and run it in a client's office on another computer with sufficient memory and screen resolution. Our show of 20 slides fits on one 360K floppy disk. The average slide is about 10K.

At the time we reviewed *Freelance Plus*, you could produce 35-mm slides only through Polaroid *Palette* and Polaroid *Palette Plus*. With the release of v3.01, however, Lotus announced agreements with both MAGICorp and Autographix for overnight production of high-quality slides, transparencies, and full-color prints. Also, *Freelance Plus* directly supports the HP PaintJet, which can print directly onto overhead transparencies.

There are problems, of course, but they are few and far between. For example, it took quite a bit of time to become familiar with the numerous keystrokes required to perform tasks. Another problem occurred when we zoomed in to do some fine tuning on a graphic. Occasionally the cursor disappeared from the screen; but we were able to retrieve it with either the mouse or the arrow keys.

To run *Freelance Plus*, you must have a 640K computer with 520K available. While this usually leaves enough room for creating graphics, we once received a Workspace Full—Drawing Too Large message, indicating that we had run out of memory.

Unfortunately, *Freelance Plus* does not support extended or expanded memory. When we attempted to run a screen show on a system with inadequate memory (384K), the system froze and had to be cold booted.

*Freelance Plus* includes an extensive reference manual and a separate introductory guide with tutorials. The seven tutorial lessons are instructive, but they barely scratch the surface of the package's potential.

The program's comprehensive on-screen help is superb. Not only does it highlight many of the package's features, it also offers insight into which charts are suitable for which applications. The excellent documentation and on-screen help will answer most of your questions, but should you need additional assistance, Lotus has a toll-free product support line (available for six months free of charge to registered users) as well as a non-toll-free support number and a forum on CompuServe where Lotus technicians answer *Freelance Plus* users' questions.

— RONNI & HARRY GEIST



Andrew Goeiz

**Yesterday, this woman gained access to classified information.**



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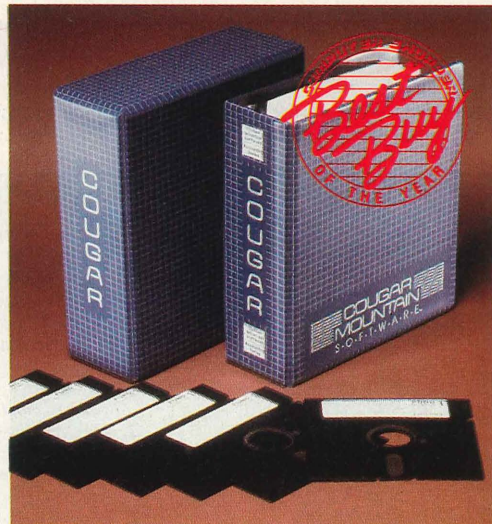
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IBM

## BUSINESS

1. Lotus 1-2-3  
*Lotus Development Corp.*
2. WordPerfect v4.2 and v5.0  
*WordPerfect Corp.*
3. PFS: First Publisher  
*Software Publishing Corp.*
4. Windows/286  
*Microsoft Corp.*
5. Word v5.0  
*Microsoft Corp.*
6. Works v1.05  
*Microsoft Corp.*
7. RightWriter v3.1  
*RightSoft, Inc.*
8. TurboTax 1989  
*ChipSoft*
9. Excel v2.1  
*Microsoft Corp.*
10. First Choice v3.0  
*Software Publishing Corp.*

## HOME/SMALL BUSINESS

1. The Print Shop w/Graphics Library  
*Broderbund Software*
2. Calendar Creator Plus  
*Power Up! Software*
3. PC Paintbrush  
*Mediagenic*
4. Art Gallery  
*Software Publishing Corp.*
5. Will Maker v3.0  
*Nolo Press*
6. Managing Your Money v5.0  
*MECA*
7. Résumé Kit  
*Spinnaker Software*
8. Print Magic  
*Epyx, Inc.*
9. PC Globe +  
*Comwell Systems, Inc*
10. PrintMaster Plus  
*Unison World*

## EDUCATION

1. Learning DOS v2.0  
*Microsoft Corp.*
2. Mavis Beacon Teaches Typing  
*The Software Toolworks/EA*
3. Where in the U.S.A. Is Carmen Sandiego?  
*Broderbund Software*
4. Math Blaster Plus  
*Davidson & Associates*
5. Where in the World Is Carmen Sandiego?  
*Broderbund Software*
6. Reader Rabbit  
*The Learning Company*
7. Typing Instructor Encore  
*Individual Software, Inc.*
8. Mixed-Up Mother Goose  
*Sierra On-Line*
9. Think Quick!  
*The Learning Company*
10. Typing Tutor IV  
*Simon & Schuster Software*

## ENTERTAINMENT

1. Flight Simulator v3.0  
*Microsoft Corp.*
2. 688 Attack Sub  
*Electronic Arts*
3. Space Quest III  
*Sierra On-Line*
4. The Duel: Test Drive II  
*Accolade*
5. Indiana Jones: The Graphic Adventure  
*LucasFilm Games/EA*
6. The Chessmaster 2100  
*The Software Toolworks/EA*
7. Falcon  
*Spectrum-HoloByte*
8. Leisure Suit Larry II  
*Sierra On-Line*
9. King's Quest IV: Perils of Rosella  
*Sierra On-Line*
10. TV Game Shows  
*ShareData*

IBM

MACINTOSH

## BUSINESS

1. MyMail List  
*MYSoftware Company*
2. Word v4.0  
*Microsoft Corp.*
3. Excel v2.2  
*Microsoft Corp.*
4. Works v2.0  
*Microsoft Corp.*
5. PageMaker v3.0  
*Aldus Corp.*
6. Simply Accounting  
*Bedford Software/Computer Associates*
7. SuperCard  
*Silicon Beach Software*
8. atOnce! v1.0  
*Layered, Inc.*
9. Word Finder  
*Microlytics*
10. WriteNow v2.0  
*T/Maker Company*

## HOME/SMALL BUSINESS

1. The Print Shop  
*Broderbund Software*
2. Calendar Creator Plus  
*Power Up! Software*
3. World Class Fonts!  
*Double-Click Software*
4. Family Matters  
*Springboard Software*
5. Managing Your Money  
*MECA*
6. Will Maker v3.0  
*Nolo Press*
7. Wet Paint Vol. 1 & 2 Bundle  
*Double-Click Software*
8. Dinner at Eight  
*Rubicon Publishing*
9. Images with Impact! Business 1  
*3G Graphics*
10. Studio 1  
*Electronic Arts*

## EDUCATION

1. Mavis Beacon Teaches Typing  
*The Software Toolworks/EA*
2. Manhole  
*Mediagenic*
3. Where in the World Is Carmen Sandiego?  
*Broderbund Software*
4. Where in the U.S.A. Is Carmen Sandiego?  
*Broderbund Software*
5. Number Maze  
*Great Wave Software*
6. Reader Rabbit  
*The Learning Company*
7. Type!  
*Broderbund Software*
8. Math Blaster  
*Davidson & Associates*
9. Typing Instructor Encore  
*Individual Software, Inc.*
10. Math Rabbit  
*The Learning Company*

## ENTERTAINMENT

1. SimCity  
*Maxis Software/Broderbund Software*
2. Falcon v2.0  
*Spectrum HoloByte*
3. Life & Death  
*The Software Toolworks/EA*
4. Sargon IV  
*Spinnaker Software*
5. Hunt for Red October  
*Datasoft/EA*
6. Flight Simulator v1.02  
*Microsoft Corp.*
7. Leisure Suit Larry  
*Sierra On-Line*
8. Crystal Quest v2.2  
*Casady & Greene, Inc.*
9. Gauntlet  
*Mindscape*
10. Quarterstaff  
*Mediagenic*

MACINTOSH

APPLE

## BUSINESS

1. AppleWorks v2.1  
*Claris Corp.*
2. Publish-It v2.0  
*Timeworks, Inc.*
3. List & Mail  
*Avery*
4. WordPerfect v2.1  
*WordPerfect Corp.*
5. AppleWorks GS  
*Claris Corp.*
6. Graph-It  
*Timeworks, Inc.*
7. GeoPublish  
*Berkeley Softworks*
8. Wordbench  
*Addison-Wesley Publishing*
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*DataPak Software*
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*Springboard Software*
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5. The Print Shop Companion  
*Broderbund Software*
6. Print Magic  
*Epyx, Inc.*
7. The Print Shop Holiday Graphics  
*Broderbund Software*
8. The Print Shop Party Graphics  
*Broderbund Software*
9. Managing Your Money v4.0  
*MECA*
10. The Print Shop Sampler  
*Graphics Broderbund Software*

## EDUCATION

1. Where in the World Is Carmen Sandiego?  
*Broderbund Software*
2. Mavis Beacon Teaches Typing  
*The Software Toolworks/EA*
3. Math Blaster Plus  
*Davidson & Associates*
4. Think Quick!  
*The Learning Company*
5. Children's Writing & Publishing Center  
*The Learning Company*
6. Where in the U.S.A. is Carmen Sandiego?  
*Broderbund Software*
7. Reader Rabbit  
*The Learning Company*
8. Math Blaster Mystery  
*Davidson & Associates*
9. Magic Spells  
*The Learning Company*
10. The Oregon Trail  
*MECC*

## ENTERTAINMENT

1. The Duel: Test Drive II  
*Accolade*
2. King's Quest IV: Perils of Rosella  
*Sierra On-Line*
3. Hardball  
*Accolade*
4. Silpheed  
*Sierra On-Line*
5. Advanced Dungeons & Dragons  
*Pool of Radiance Strategic Simulations/EA*
6. Dungeon Master  
*FTL Games*
7. Technocop  
*Epyx, Inc.*
8. TV Game Shows: Jeopardy/ Wheel of Fortune  
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CIRCLE READER SERVICE 38



# FAMILY COMPUTING

## Games for the Whole Gang

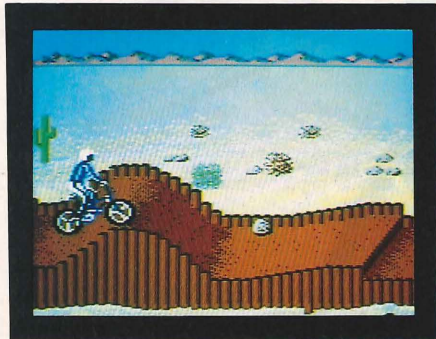
*Make Software the Centerpiece at Your Holiday Gatherings*

BY JOEY LATIMER

This holiday season, don't just sit around the dining-room table chit-chatting with distant relatives and drop-ins. Take advantage of that extra mind muscle and challenge those seasonal guests to a software spar. Healthy competition and teamwork can bring a festive air to your home. Many games work well in group situations, and some are designed especially for groups. Which games belong on your holiday shopping list? I've put together a description of the ones that have worked in my home.

### SPORTS SCORE POINTS

Sports games offer some of the most competitive computer action. You and a group of family and friends can challenge each other to slalom races down mammoth mountains, skateboard maneuvers that get you airborne, or something tamer, like hitting golf balls around. If you feel really aggressive, you can try to body slam family members out of a ring.



Compete against your friends on a BMX bicycle in California Games.

The sports in *California Games* (Epyx; 512K Amiga, 128K Apple, 512K IBM PC, PS/2; \$40-\$50) aren't the kind you learn in gym class. And to people living in Maine, they may seem pretty foreign. First, there's BMX bicycling over what looks like our local junkyard. If you survive that, you can hang out at the beach and roller-skate, or ride the waves at Malibu. Skateboarding the half-pipe, chucking a Frisbee, and playing

kick-back with a kick bag round out this trophy competition for one to eight players. The IBM version of *California Games II* should be in stores by Christmas.

If you didn't get enough of the national pastime last summer, how about setting up a friendly family league where you and yours can trade for players, build teams, and play ball right in your living room? *Earl Weaver Baseball* (Electronic Arts; 512K Amiga, 128K Apple, 512K IBM PC, PS/2; \$40-\$50) brings it all home, along with arcade action, realistic camera angles, famous ballparks, even instant replay, slo-mo, and freeze-frame effects. You can play or manage, but don't be surprised if everyone's looking over your shoulder second-guessing your strategy.

When the baseball season is over, your pals should be in shape for the Olympic challenge of *Winter Games* (Epyx; 512K Amiga, 64K Apple, 512K Atari ST, C 64, 128K IBM PC, PS/2, 128K Macintosh; \$20). The great thing about *Winter Games* is that you don't have to wear long underwear to enjoy it . . . and you won't have to visit a chiropractor when the games are over. There are six events in the quest for the Gold: the Bobsled, Ski Jump, Figure Skating, Free-Style Skating, Hot Dog Aerials, and the Biathlon. Compete against the computer or up to eight players. Then grab a hot chocolate and watch the closing ceremonies.

The advantage in *Skate Or Die* (Electronic Arts; 512K Apple, C 64, 384K IBM PC, PS/2; \$30-\$40) definitely goes to the youngsters. The scenario for this fast-moving competition for one to eight players is simple: Skate or die! If you stop to think about steering your skateboard, you'll quickly find yourself karate-chopped into a chain-link fence in Downhill Jam or smacked in the face by an oar in Pool Joust. There's also the deadly Downhill Race, the dreaded High Jump, and the slippery Free-style. You can always skate over to Rodney's Skate Shop if you get tired of the kids showing you up.

Jack Nicklaus' *Greatest Eighteen Holes of Major Championship Golf* (Accolade; 512K Amiga, 512K Apple, C 64, 384K IBM PC, PS/2; \$30-\$50) lets your group play with the Golden Bear himself—sans

the green fees. On top of that, one of the courses is made up of Jack's all-time favorite holes. When our foursome teed off in the den, we didn't expect the wind to be so strong. We weren't prepared for the tough computerized version of *Nicklaus*. I should have brought my foot mashie, I thought to myself after hitting into the trees for the third time in four holes. Duffing through the greatest 18 holes of golf in the world wasn't much different than doing it at the local



Jack Nicklaus puts your group to the test with a tough series of holes.

links. "But, at least we didn't have to fork up 20 bucks for a cart," a pal pointed out.

When I was a kid, my brother Larry and I used to watch wrestling on television, and during the commercials we would practice what we had learned and tear up the living room in the process. If microcomputers had been around then, our folks could have bought us *Championship Wrestling* (Epyx; 128K Apple, 512K Atari ST, C 64; \$20) and preserved the furniture a bit longer. Up to eight players can bash it out using more than 25 moves guaranteed to cause maximum damage (up to 200 stitches' worth). The next time Larry and I jump into the ring, I think I'll ask our parents if they want to join in the fun (tag team, of course). But Mom has to promise that she won't throw Dad out of the ring.

### TELEVISION, BOARD, AND CARD GAMES

Although I like to fantasize that my mother will wrestle me at the computer some day, television, board, and card games are more her thing. When she comes over for a holiday, she whips everyone in the house at

JOEY LATIMER is a freelance writer and musician living in Idyllwild, California.





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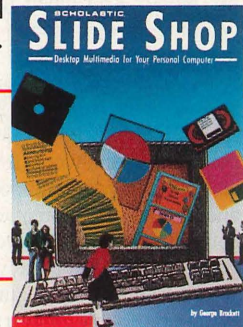
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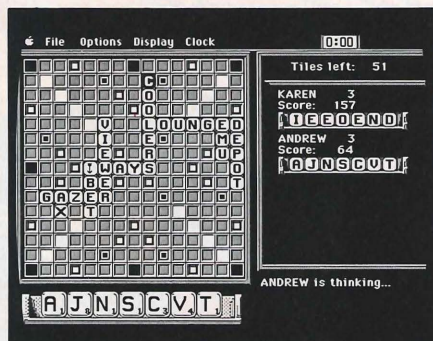
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CIRCLE READER SERVICE 66

HOC 9-89





Up to four computer or human players match wits with words in Scrabble.

Scrabble, and Dad tells me she's as sharp as a tack when it comes to bridge and television game shows. Here are some games my family is boning up on for her next visit.

The classic television game show *Family Feud* (ShareData; 128K Apple, C 64, 256K IBM PC, PS/2; \$13) translates extremely well to computers. There are two families with wild facial expressions competing for money and valuable prizes. My family had a tough time matching answers with the survey responses, but we had a great time trying. The host is a bit stiff, but what do you expect from a guy wearing a 500- or 600-pixel suit?

Another popular television game show, *Wipeout* (ShareData; 256K IBM PC, PS/2; \$15), lets up to three people compete for "a fortune in cash and prizes." If only one or two people play, the computer assigns automated opponents. Winning is simple: Just keep choosing the right answer. Of course, if you make a mistake, you wipe out! All you trivia buffs will like this one, especially the part where you get a brand new car—until you turn off the computer.

Learning to play bridge with real people was hard for me. Everyone was always coaching me, even after a few years. Who cares if I don't know the difference between no-trump and no-Ueberroth? Picking up the rules of bridge was a lot easier with *Grand-slam Bridge* (Electronic Arts; 384K IBM PC, PS/2; \$60) because I could play with either computerized or real players, depending on my mood. And when my relatives join the computer bridge game, I can handle their instructions with a little more finesse.

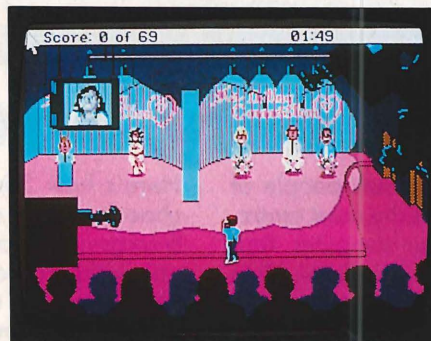
Playing *Scrabble* (Leisure Genius; 512K Amiga, 64K Apple, 512K Atari ST, C 64, 512K IBM PC, PS/2; \$30-\$40) on the computer is a gas. Two to four players (computer or human) can compose words for points and have them automatically checked by the computerized 20,000-word dictionary. The game board is accurately represented on the screen with all the features of the original, including double- and triple-word and letter scores. The computer can give you hints when you're stuck.

*Risk* (Leisure Genius; 512K Amiga, 64K Apple, 512K Atari ST, C 64, 512K IBM PC, PS/2; \$30-\$40), the popular board game of world conquest, makes a great computer game. Putting the board game on-screen eliminates the old method of distributing all the little square armies around the board, only to have the troops scatter when the dog shows up. Features such as high-resolution graphics, joystick operation, and game saving make *Risk* a pleasure for one to six players to play. Like the original version, it can be addicting.

Go to jail. Do not pass Go. Do not collect \$200. Unfortunately, the same rules apply in the computer adaptation of *Monopoly* (Leisure Genius; 512K Amiga, 64K Apple, 512K Atari ST, C 64, 512K IBM PC, PS/2; \$30-\$40). But there's also a Get Out of Jail Free card and the chance for up to eight players to acquire valuable real estate in Atlantic City, New Jersey. This classic is fun to play in any format.

## SHARE THE ADVENTURE

When it comes to adventure games, two heads are better than one, and four can be better than two. Trade off the typing chores and let everyone contribute ideas for solving situations. The things my family and friends come up with amaze me—I would never



Larry is sure to get a laugh from holiday visitors.

think of them all alone. It's like watching a movie, but you can change the outcome. Here are some of my favorite challenges for small groups:

The adventures in the classic *Carmen Sandiego* series (Broderbund Software; 128K Apple, C 64, 256K IBM PC, PS/2, 512Ke Macintosh; \$50-\$70) are ideal for groups of people—even if your crew isn't that comfortable around computers. For example, *Where in the World Is Carmen Sandiego?* comes packed with a current copy of *The World Almanac and Book of Facts* to help your gang track down the thief in Carmen's gang. Staffers of the Acme Detective Agency who haven't warmed up to the computer screen can be in charge of poring over these resources to find clues. Carmen Sandiego, who sports a ruby necklace and has

an insatiable appetite for tacos, and her fiendish friends will challenge the most clever group of detectives you can assemble. My family is eager to try the latest in this series, *Where in Time Is Carmen Sandiego?*

Imagine crashing in a plane somewhere in the remote regions of California's Sierra Nevada and you can imagine what *Wilderness* (Spectrum HoloByte; 48K Apple, 256K IBM PC, PS/2; \$30) is like. You don't know exactly where you are, but surviving requires finding a ranger outpost and your current location on a topographic map, then braving the elements to hike back to safety. Your survival guide includes information on first aid and navigation, as well as securing food, water, and shelter. Options for different scenarios and 3-D graphics keep this program interesting.

Watch out girls, Larry's loose again in *Leisure Suit Larry Goes Looking For Love (In Several Wrong Places)* (Sierra On-Line; 512K Atari ST, 512K IBM PC, PS/2; \$50). Like its predecessor, *Leisure Suit Larry In The Land Of The Lounge Lizards*, this 3-D animated adventure game is a real favorite of my family's. Our 5-year-old thinks Larry is the funniest thing to hit the screen since Kermit the frog. When I sneak off to play by myself, it's not long before a crowd gathers to groove to the stereo soundtrack (the game supports the Roland MT-32 and other sound boards) and tell me where Larry should go next. You see, Larry needs all the help he can get if he's going to find a long-term relationship.

Games can be much more satisfying when played in groups. And the most unlikely people can prove to be vicious competitors in on-screen battles. Who knows? Your 8-year-old, your mother-in-law, or your next-door neighbor might beat the pants off you. Mine did, but I'm not giving up. Run it again, Grandma! ■

## MANUFACTURERS

Accolade, Inc., 550 S. Winchester Blvd., Suite 200, San Jose, CA 95128; (408) 985-1700

Broderbund Software, Inc., 17 Paul Dr., San Rafael, CA 94903; (415) 492-3200 or (800) 527-6263

Electronic Arts, 1820 Gateway Dr., San Mateo, CA 94404; (415) 571-7171 or (800) 245-4525

Epyx, P.O. Box 8020, 600 Galveston Dr., Redwood City, CA 94063; (415) 366-0606

Leisure Genius/Virgin Mastertronic International, Inc., 18001 Cowan, Suite A, Irvine, CA 92714; (714) 833-8710

ShareData, Inc., Chandler, AZ 85226; (602) 961-7519

Sierra On-Line, Inc., P.O. Box 485, Coarsegold, CA 93614; (209) 683-4468

Spectrum HoloByte, 2061 Challenger Dr., Alameda, CA 94501; (415) 522-3584



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Number 14

# Melody Records

WHERE THE HOTTEST HITS HAPPEN

## Retailers Reprise Rockers

ful of Melody Record's president of Marketing, has said, "this is just the tip of the oldies iceberg." Which will look good on Melody's bottom line.

On the same note, another group of previously unreleased recordings by many of these artists will soon be available. Discovered by Melody Records' archivist Rip LaStrange, these new-found old sounds will be available as "Raw Rockers."

One unique feature of this new release will be its denim cover, with copper rivets at the four corners, a pocket and a leather patch which will be similar in design to the Levi's denim jeans so popular in the 1950's. (cont'd, page 6)

## CHORAL CONVENTION COMING

Melody is proud to be a part-sponsor of the annual "Sing It Sister" convention of international women's choral groups. This world-renowned confab brings together some of Melody's most deserving artists in a spotlighted forum that will be satellite broadcast to the USSR, Bulgaria and Sri Lanka for the first time ever, for a projected total of 37.5 million viewers. It's a red-letter event for Melody's own distinctive song stylists, the Des Moinette

Triplettes, a chorus of 21 women made up of 7 sets of singing triplets from Des Moines, Iowa. (cont'd, page 4)

## DISTRIBUTOR B.L.U.E.S.?

To keep you up to date on industry trends, Melody Records' CEO Johnny Melody reports many distributors' profit margins are narrower than ever, due to increased vinyl costs and strong competition from CDs and cassettes. Melody says, (cont'd, page 2)

## CHART TOPPERS

For the second week running, Melody artists show strongly in the top 20 on country, pop and heavy metal charts. This week, country singer Sugar Blues sweetens her position at #19 with her latest, "Honey, Why'd You Go So Sour?" The WheelWells roll up to #12 on the pop charts with "Rocker Arm Assembly." And moving to #20 with a bullet in metal is BulletHedd with their latest single, "Bulls-eye." BulletHedd is an L.A. band that's new to the Melody label and showing a lot of promise.



# Software for Learning and Leisure

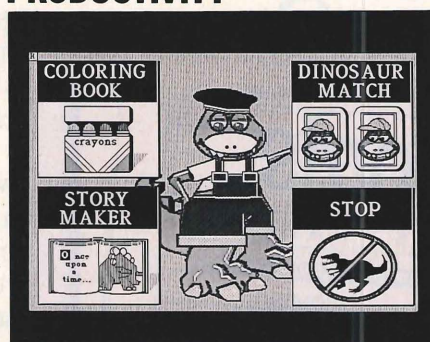
*Comprehensive and Capsule Reviews of New and Noteworthy Programs for Education, Family Productivity, and Entertainment*

The following ratings key and table refer to full as well as capsule software reviews. Listed are various types of computers, as designated under "System Requirements," and the models included under each designation. When a review lists additional hardware, software, or memory, it is required unless noted as "recommended" or "optional." When a review lists more than one computer, the machine marked with an asterisk (\*) is the one on which the software was reviewed. Requirements are *not* listed where obvious (for instance, printers with graphics programs). Operating system requirements, such as MS-DOS or the Macintosh System file, are listed only when they're not the standard, minimum requirement (DOS 2.0 for IBM PC or compatibles, System 3.2 for the Macintosh, or ProDOS for the Apple II). For those computer systems that can use both 5.25- and 3.5-inch disks (IBM PC and PS/2 or the Apple II), we've listed only those disk sizes that are either supplied with the software or available at no extra cost from the publisher.

**Ratings Key:** ○ Poor; ★ Average; ★★ Good; ★★★ Very good; ★★★★ Excellent.

Designation	Models
512K Amiga	500, 1000, 2000
48K Apple	II/II Plus/IIe/IIc/IIGs (in IIe/c mode)
64K Apple	II Plus/IIe/IIc/IIGs (in IIe/c mode)
128K Apple	IIe/IIc/IIGs (in IIe/c mode)
128Ke Apple	IIe (enhanced ROM)/IIc/IIGs (in IIe/c mode)
Apple IIGs	IIGs only
48K Atari	800/600XL/800XL/65XE/130XE
512K Atari ST	520ST/1040ST/Mega ST
C 64	C 64, C 128 (in C 64 mode)
IBM PC	PC/XT/AT, PS/2 and compatibles
128K Macintosh	128K/512K/512Ke/Plus/SE/II
512K Macintosh	512K/512Ke/Plus/SE/II
512Ke Macintosh	512Ke/Plus/SE/II
1MB Macintosh	Plus/SE/II

## EDUCATION/FAMILY PRODUCTIVITY



*Zug helps children create stories in Dinosaur Discovery Kit.*

### The Dinosaur Discovery Kit

**SYSTEM REQUIREMENTS:** 512K Macintosh\*. Also for 512K Amiga, 512K IBM PC, PS/2; CGA; 5.25- or 3.5-inch disks

**PUBLISHER:** First Byte, Clauset Centre, 3100 S. Harbor Blvd., Suite 150, Santa Ana, CA 92704; (714) 432-1740

**PRICE:** \$40

**SUGGESTED AGES:** 3-8

**COPY PROTECTED:** No

**OVERALL PERFORMANCE:** ★ ★ ★

**DOCUMENTATION:** ★

**ERROR HANDLING:** ★ ★ ★ ★

**GRAPHICS QUALITY:** ★ ★ ★

**EASE OF USE:** ★ ★ ★ ★

Dinosaurs are fascinating to young and old alike, which should explain the proliferation of software centered around dinosaurs. *The Dinosaur Discovery Kit* from First Byte teaches reading skills to young children. Aimed at youngsters from 3 to 8 years old, the program incorporates synthesized speech, as Zug, the Megasaurus, talks children through each section: Coloring Book, Story Maker, and Dinosaur Match.

Jonathan, my 5-year-old son, clicked on the crayons to get into the Coloring Book section, where he colored in a picture of a dinosaur. (The Macintosh version substi-

tutes shaded patterns for colors.) He can easily change pictures, and as each new picture appears on-screen, Zug says the dinosaur's name and proceeds to name the items to be colored—for instance, water, plants, head, and body. When the picture is completed, Zug gives some background information about the dinosaur.

Jonathan tried *Story Maker* next. With my help at the keyboard, he composed a story about the selected picture. Zug read the story aloud as often as Jonathan liked. Only a computer character could have that much patience.

Finally, Jonathan tried the game, *Dinosaur Match*. Zug asked him if he wanted to match real dinosaurs, dinosaur shadows, or Zug dressed in costumes, and whether he wanted to play alone, with a friend, or with Zug. He chose real dinosaurs and a game by himself. He then flipped cards to find the matching pairs. As a pair is uncovered, Zug reveals the name of the dinosaur and the printed name appears on-screen. Your child earns a certificate for completing the game.

The *Dinosaur Discovery Kit* gives your child the freedom to experiment without an adult. Most icons in the program are self-explanatory even to young children. Printing is as easy as clicking on the printer, and having Zug read a story requires only a click on the radio. A young child will enjoy this program, which reinforces reading skills.

What disturbed me about *The Dinosaur Discovery Kit* was that the packaging and documentation targeted the MS-DOS and Amiga versions and didn't adequately explain variations in the Macintosh version. Although it's not a serious problem, phrases such as "color discrimination" and "multi-colored graphics" may bother Macintosh users. Certainly Macintosh packaging and documentation isn't too much to ask for.

*The Dinosaur Discovery Kit* runs on the Macintosh 512K, Plus, and SE. It prints all screens, stories, and certificates in black and white on an Imagewriter I, II, and LQ. An upgrade should support the Macintosh SE/30 and II.

—JUDITH ZORNBERG





## Konami is bringing hot shots like you down to earth.

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In AJAX you'll command the world's hottest fighters, dogfighting to the death with planes, tanks, ships and an armada of UFOs loaded with surprise attacks. While in Life Force you'll duel with Zelos, an all-engulfing, planet-eating alien who's hungering to take a bite out of your plutonium-packed star cruiser.

So, if you think you're the hottest fighter jock ever to blister the skies with a heat seeking missile, take a shot at AJAX and Life Force.

But be warned. The first thing to go down in flames will be your ego.



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CIRCLE READER SERVICE 37



## Math Blaster Mystery

**SYSTEM REQUIREMENTS:** 256K IBM PC, PS/2\*, CGA, Hercules; DOS 2.1 or higher; 5.25- or 3.5-inch disks. Also for 128Ke Apple; 5.25- or 3.5-inch disks

**PUBLISHER:** Davidson and Associates, Inc., 3135 Kashiwa St., Torrance, CA 90505; (213) 534-4070

**PRICE:** \$50

**SUGGESTED AGES:** 10-adult

**COPY PROTECTED:** Yes

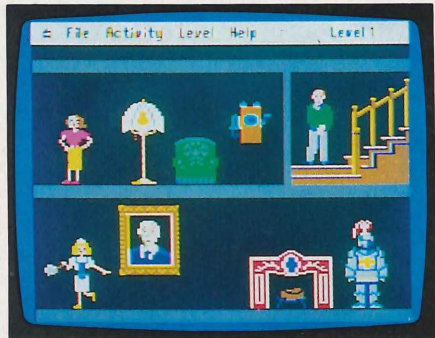
**OVERALL PERFORMANCE:** ★ ★ ★ ★

**DOCUMENTATION:** ★ ★ ★

**ERROR HANDLING:** ★ ★ ★ ★

**GRAPHICS QUALITY:** ★ ★ ★

**EASE OF USE:** ★ ★ ★ ★



Search for clues to solve the Math Blaster Mystery.

Software publisher Davidson and Associates is well known for its high-quality educational software. *Math Blaster Mystery*, a new release, lives up to Davidson's reputation. As a matter of fact, *Math Blaster Mystery* probably sets a new standard. A good companion or follow-up to the original *Math Blaster*, the similarity ends with the name. Rated for ages 10 to adult, *Math Blaster Mystery* isn't child's play; it's certain to challenge the best and the brightest. Although it's basically a math program, the skills it helps develop are applicable in places other than a math class. This is one of the few math programs available that successfully helps users develop problem-solving strategies and higher-order thinking skills.

Four activities are included: Follow the Steps, Weigh the Evidence, Decipher the Code, and Search for Clues. Each activity has four levels of difficulty, accessible from a pull-down menu by mouse or key controls. A pop-up calculator is available for computing math, and certificates of achievement will print in either text or graphics format, complete with activity name and level.

The activities all provide a definite challenge at each skill level, but Decipher the Code is my favorite. It's a puzzle, and the

objective is to decipher the correct components of an equation. Blank boxes, starting at the bottom of the screen, represent the equation components, giving only the mathematical operators and an equal sign at the first level. At the fourth level, the most difficult, you must solve complex equations with two operators and no equal sign. Decipher the Code requires the player to use deductive and inductive reasoning, form hypotheses, draw inferences, and plan strategies.

I wanted my kids to try *Math Blaster Mystery*, but they were less than willing to experiment with what they thought was a children's math program. Needless to say, they were both surprised and challenged. My daughter Jill, who has just completed her freshman year in high school and an advanced math course, found Weigh the Evidence mesmerizing. You are given a stack of weights on a scale and must juggle the order of individual weights to arrive at the solution. Weights must always be stacked with the heaviest at the bottom. This activity draws on the ability to plan, to solve problems by dividing them into smaller, more manageable units, and to deal with spatial relationships. It's fun too!

Follow the Steps involves solving traditional word problems, stressing the identification of words and data crucial for finding the answer. You enter your own word problems, and Follow the Steps gives tips on making them appropriate and challenging. You can also print out word problems for a pencil-and-paper test.

Search for Clues allows the user to become a detective and search for the value of *n*. Mathematical clues, such as "is a factor of 45," are found by selecting various objects in a house. Hints, definitions, and a record of incorrect guesses are available at any time.

The accompanying documentation is clear and complete, offering tips for pre-play and follow-up activities. (These tips are written for teachers but are adaptable to the home.)

No matter how you look at it, *Math Blaster Mystery* is great! —JUDITH ZORNBERG

## ENTERTAINMENT

### Cosmic Osmo

**SYSTEM REQUIREMENTS:** 1MB Macintosh (2MB recommended); hard-disk drive; System 6.0.1 or higher; HyperCard v1.2.2 included

**PUBLISHER:** Activision Entertainment, 3885 Bohannon Dr., Menlo Park, CA 94025; (415) 329-0800

**PRICE:** \$70

**COPY PROTECTED:** No

**OVERALL PERFORMANCE:** ★ ★ ★ ★

**DOCUMENTATION:** ★ ★ ★

**PLAY SYSTEM:** ★ ★ ★ ★

**GRAPHICS QUALITY:** ★ ★ ★ ★

**EASE OF USE:** ★ ★ ★ ★



Cosmic Osmo is just one of the wacky aliens you'll encounter in this fantasy exploration package.

Welcome to the world of *Cosmic Osmo*, an inspired interactive adventure fantasy developed by Cyan, the same company that created the mysterious, magical *Manhole* (see review in January issue). This "remote and strange little solar system at the edge of the Universe," is a place so full of wonderful sights, sounds, and animated surprises that time is meaningless, age is insignificant, and exploration is essential.

Hop aboard the Cosmic Osmobile and prepare to travel. Launch the ship into hyperspace and explore the planets in the Osmo System. You can't predict where your first journey will take you. Travel to Vegetable Moon, Holy Mackerel, Nose of Osmo, or a mysterious planet (half land, half water). Flowers grow, pumpkins burp, mice scamper out from under furniture, and telephones actually work. Be careful: Paintings on the walls may not be what they seem.

Use the mouse to point and click on images of interest. Select items a second time, and they may respond with unpredictable results. Any object can surprise you and every room holds several pathways to the unforeseen. Rest assured, whatever you do won't bring disappointment.

You'll meet lots of zany characters, including hospitable Osmo himself. There's a note-taking receptionist, a bone-loving dog, chirping birds on the fly, an opera-singing ketchup bottle, cosmic potato heads, and more. Take time to play games and complete puzzles. Learn to navigate the S.S. *Osmo*—your host's petite sailing vessel. Travel with the captain of a submarine as he navigates his ship, or listen to a blind mouse play a piano made of Swiss cheese.

The program comes on six 800K floppies, uses HyperCard, and requires a hard-disk drive—it consumes almost 4MB, but it's worth it.





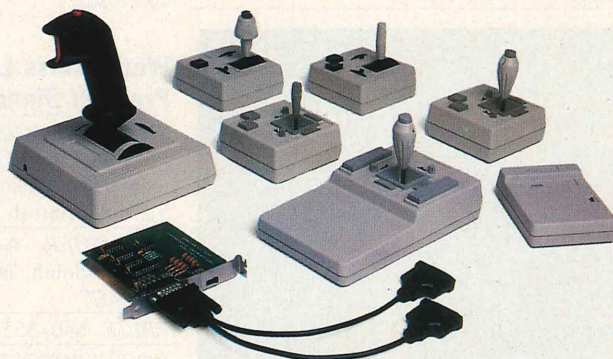
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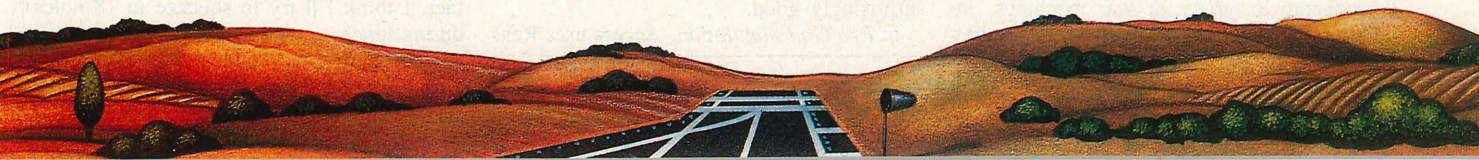
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Although there's no plot, the adventure is as compelling as a good novel, and you're invited along to chart the ride. The graphics are terrific; the images are ingenious. Program design ranges from the whimsical to the truly inspired. Recurring motifs comfort you no matter where you end up.

A CD-ROM version is expected out early next year. It will offer more worlds to explore, more elaborate music, and more animation sequences. But why wait for a *Cosmic Osmo* in the bush when George Bush is already in the current cosmic version? Osmo and his friends will keep you and your children pleasurably spaced out for hours.

—CAROL S. HOLZBERG

## Strategic Conquest Plus v2.0

**SYSTEM REQUIREMENTS:** 1MB Macintosh; 2MB Macintosh IIcx

**PUBLISHER:** Premier Technology, Inc., P.O. Box 11138, San Francisco, CA 94101; (415) 882-7766

**PRICE:** \$60

**COPY PROTECTED:** No

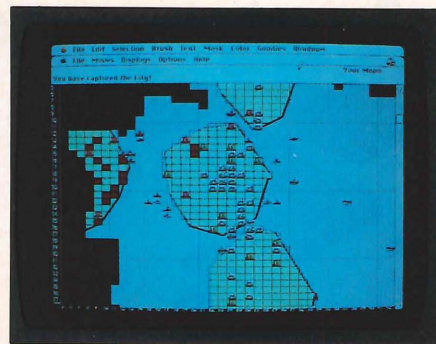
**OVERALL PERFORMANCE:** ★ ★ ★ ★

**DOCUMENTATION:** ★

**PLAY SYSTEM:** ★ ★ ★ ★

**GRAPHICS QUALITY:** ★ ★ ★

**EASE OF USE:** ★ ★



Strategic Conquest Plus v2.0 adds synthesized speech and a two-player option.

Four years ago, when *Strategic Conquest* made its first appearance, it was one of the premiere strategy games, relatively simple to play, and addictive. *Strategic Conquest Plus 2.0* is a significantly enhanced version of the original and, despite competition, remains one of the genre's best.

The idea is simple: Explore and conquer a new world before your opponent does. You begin play in your home city, unarmed and able to see only one of the more than 6,000 squares that make up the world. From here you must start building your forces, exploring, and capturing neutral cities to further enhance your power. Each city is capable of producing a variety of war machines, including jet fighters, submarines, and battle-

ships—the more powerful the weapon, the longer the construction time. At some point you will encounter the enemy, and then it is a matter of beating back these forces as you continue your search for the remaining neutral cities.

The game can be played against the computer (15 skill levels), against another person on the same computer, or on two computers via LocalTalk (formerly AppleTalk). With more than two billion possible worlds available, it is unlikely that you'll ever fight on the same turf twice; considering the game's addictiveness, however, it is not out of the question.

Players of the original *Strategic Conquest* will not only marvel at the two-player option and speech synthesis, but will be challenged by a far better equipped computer opponent. Unfortunately, the comprehensive documentation of old has been replaced by the inadequate Quick Guide—it's difficult to read and lacks vital information. It may have been useful in conjunction with a more thorough guide, but alone it frustrates the new player. There is also a bug in the two-player LocalTalk game that causes the computer to crash when players send each other messages simultaneously.

*Strategic Conquest Plus*, however, is a strong enough game to overcome these handicaps and come out smelling like silicon roses.

—DAVID LANGENDOEN

## World Class Leader Board: Pro Golf Simulation

**SYSTEM REQUIREMENTS:** 384K IBM PC, PS/2\*; CGA, EGA, MCGA; 5.25- or 3.5-inch disks. Also for 64K Apple, C 64, 512K Macintosh

**PUBLISHER:** Access Software Inc., 545 W. 500 South, Bountiful, UT 84010; (801) 298-9077

**PRICE:** \$40–\$55

**COPY PROTECTED:** No

**OVERALL PERFORMANCE:** ★ ★ ★ ★

**DOCUMENTATION:** ★ ★ ★

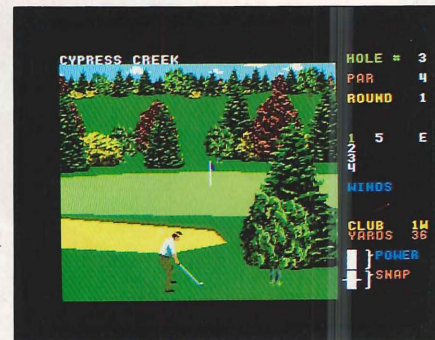
**PLAY SYSTEM:** ★ ★ ★

**GRAPHICS QUALITY:** ★ ★ ★ ★

**EASE OF USE:** ★ ★ ★ ★

Just when you thought that software publishers had done all they could with golf simulations, along comes Access Software with a new twist. In addition to the spiffed up graphics and game play, there's a remarkable new feature to the IBM version called Real Sound, which adds realistic digitized sounds to any game and doesn't require added hardware. Any MS-DOS computer with an internal speaker is compatible with Real Sound, and the sound quality is surprisingly good.

In *Pro Golf Simulation*, Access uses Real



Cypress Creek is one of the top notch-courses featured in World Class Leader Board.

Sound for realistic crowd noises, club swings, and comments from TV announcers. The bird calls are calming and refreshing, but I wanted to hunt down that cricket with my nine iron.

I especially liked watching the scenes build on-screen. First you see the tee area, the fairway, and the green. Then, you see trees and bushes sprout up starting from the furthest point. This gives the player a good, unobstructed view of the layout of the course. This comes in handy when you find yourself, as I often do, with a large stand of trees between you and the hole. A brief glance at the flag allows you to pitch confidently over the trees and onto the green.

Game play is similar to that of other popular golf games, though I think it is a little more challenging. There are two parts to a club swing. First you press the space bar and try to release it when the indicator on the Power Gauge is at the desired location. The indicator will then start down the Snap Gauge. You must press the bar again to indicate the type of club snap you wish. An early tap will cause a hook and a late tap causes a slice. Short gauge bars provide the challenge: It's tricky to release at just the right second.

But the slice and hook features let you make some incredible shots to get out of bad situations. Hit a shot with max hook or slice and it will curve like a Frisbee toss.

Several opportunities to try these and other trick shots arise as you play the Cypress Creek, Doral Country Club, and revered Saint Andrews courses. You should only attempt the Gauntlet Country Club after you've been around the loop a few times. To say that this course is challenging would be an understatement.

Three levels of play are offered. The Kid Level is really too easy for anyone over 10, so beginners should start at the Amateur Level. Moving up to the Pro Level and playing the tougher courses will challenge even the best players.

So now you don't have to let bad weather or lack of time keep you off the links. In fact, I think I'll try to squeeze in 18 holes during lunch.

—RICHARD SHEFFIELD



## CAPSULE REVIEWS

### EDUCATION/FAMILY PRODUCTIVITY

TITLE/PUBLISHER PRICE	SUMMARY	SYSTEM REQUIREMENTS	RATINGS						
			CP	O	D	EH	GQ	EU	
<b>Atlas Explorer</b> Springboard Software 7808 Creekridge Circle Minneapolis, MN 55435 (612) 944-3915 \$50	Explore facts about the world, right down to the currency used and dialect spoken in certain cities. Then quiz yourself. Great for trivia buffs, but not really effective as a motivation for learning geography. There's nothing to make the places and facts seem real, no way to compare two cities, and no way to learn about a place unless you know where it's located. —Gwen Solomon	IBM Macintosh.* Also for 128K Apple, 512K IBM PC, PS/2; CGA; 5.25- or 3.5-inch disks.	N	*	*	*	*	*	*
<b>Essential Grammar</b> Gamco Industries, Inc. Box 1911 Big Spring, TX 79721 (800) 351-1404 or (915) 267-6327 \$45	Lessons and tests on parts of speech for 4- to 12-year-olds. Snakebite game is entertaining, in spite of the low-resolution graphics. But the quality of interaction between child and computer during the lessons and tests offers little advantage over traditional textbook instruction. —Carol S. Holzberg	64K Apple.* Also for C 64, 256K IBM PC, PS/2. 5.25-inch disks (Apple and IBM).	Y	*	*	*	*	*	*
<b>The Family Software Library</b> Broderbund Software 17 Paul Dr. San Rafael, CA 94903 (415) 492-3200 \$70-\$100	There's something for everyone in this collection of three popular programs: <i>Bank Street Writer Plus</i> , <i>Where in Europe Is Carmen Sandiego?</i> , and <i>Type!</i> Designed as a starter kit, the package includes complete versions of each product, plus a parent's guide for additional activities. —Carol S. Holzberg	128Ke Apple*; 5.25-inch disks. Also for C 64, 256K IBM PC, PS/2; CGA; 5.25- or 3.5-inch disks.	Y	*	*	*	*	*	*
<b>Monsters and Make-Believe Plus</b> Learning Lab 21000 Nordhoff St. Chatsworth, CA 91311 (818) 341-9611 \$50	What does a personal monster do? It encourages children's creativity as they combine body parts and accessories to design wacky monsters. New features let 5- to 13-year-olds write short stories or speech bubbles and then listen to their monsters mumble. A printout can be customized with a choice of fonts and type sizes. Lots of fun. —Gwen Solomon	128K Apple; 5.25-inch disks. Echo Board or Cricket Speech Synthesizer required for speech.	Y	*	*	*	*	*	*

### ENTERTAINMENT

TITLE/PUBLISHER PRICE	SUMMARY	SYSTEM REQUIREMENTS	RATINGS						
			CP	O	D	PS	GQ	EU	
<b>The Crack of Doom</b> Addison-Wesley Publishing Route 128 Reading, MA 01867 (617) 944-3700 \$30-\$40	Based on the third and final book in Tolkien's "Lord of the Rings" trilogy, this is basically a text adventure with a few pictures here and there. As Sam Gamgee, you and Frodo Baggins must destroy the One Ring to save Middle Earth. The usual Black Riders and rat-faced Orcs await you at every turn. —Richard Sheffield	128K IBM PC, PS/2*; CGA, EGA; 5.25-inch disk. Also for 64K Apple, C 64, 512Ke Macintosh.	N	*	*	*	○	*	*
<b>Dark Side</b> Spotlight Software P.O. Box 5083 Westlake Village, CA 91359 (805) 495-6515 \$30-\$40	Explore the smooth-scrolling terrain of this alien world and try to destroy all of the Energy Collection Devices before they gain enough power to annihilate your planet. This 3-D adventure successfully combines aspects of puzzle-solving, exploration, and flight simulation into an action-filled package. —Richard Sheffield	256K IBM PC, PS/2*; CGA, EGA, VGA; 5.25- or 3.5-inch disks. Also for 512K Amiga, 512K Atari ST, C 64.	N	*	*	*	*	*	*
<b>Project Neptune</b> Epyx, Inc. 600 Galveston Dr. Redwood City, CA 94063 (415) 366-0606 \$40	A James Bond rip-off that's a shoot-em-up game in adventure's clothing. The hero, Rip Steel, is a member of NATO's Special Forces and must foil the plot of a mad arms dealer who is mining the North Sea for uranium. Project Neptune may sound exciting, but it's not. Inadequate instructions (a jumble of papers designed to make the game seem more realistic) and a humdrum play system make this a drippy underwater escapade. —Aaron Roston	512K IBM PC, PS/2*; CGA, EGA, VGA; 5.25- or 3.5-inch disks. Also for 512K Amiga, 512K Apple, 512K Atari ST.	N	*	*	*	*	*	*
<b>Total Eclipse</b> Spotlight Software P.O. Box 5083 Westlake Village, CA 91359 (805) 495-6515 \$30-\$40	An ancient Egyptian curse and a secret shrine threaten to annihilate the Earth. You have only two hours to make your way through a vast pyramid, find the shrine, and destroy it to save the world. Excellent graphics and a challenging maze make for an enjoyable adventure. —Steven Williams	256K IBM PC, PS/2*; CGA, EGA, VGA; 5.25- or 3.5-inch disks. Also for 512K Amiga, 512K Atari ST, C 64	N	*	*	*	*	*	*

**Ratings Key:** CP Copy Protected, yes or no; O Overall Performance; D Documentation EH Error-Handling PS Play System; GQ Graphics Quality; EU Ease of Use;

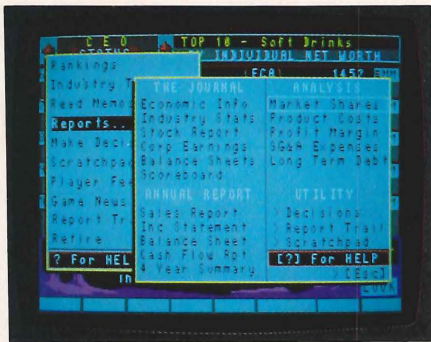
○ Poor; ★ Average; \*\* Good; \*\*\* Very Good; \*\*\*\* Excellent; \*Computer Used for Review



# Entertainment News

BY RICHARD SHEFFIELD

**REACH OUT AND PLAY SOMEONE.** It hasn't taken the on-line information services long to figure out that on-line gaming brings in a lot of cash. Even Prodigy is starting to buck the starched collars at Sears and IBM and develop more games. Although Prodigy has a flat-rate billing system (\$9.95 per month), it finds that gamers are more likely than other Prodigy users to explore all parts of the system and order goods and services via their computer.



In Prodigy's multiplayer game CEO each player makes key financial decisions for his or her company.

To take advantage of this trend, Prodigy will be offering a wide variety of games in the months to come. Still very hush-hush is a major multiplayer sports game, which is under development. It also plans to improve the two major games currently on-line: *CEO*, a business strategy game, will feature more context-sensitive help as well as mergers and takeovers for would-be corporate raiders; and *MadMaze*, an entry-level adventure game, will sport two new sections. Each will be five times larger than the previous version. A chess game will be added soon, along with several classic board and card games, as well as bulletin boards to help match game partners. Prodigy is committed to on-line gaming and is currently talking with many of the heavy-hitting game designers to develop new and exciting multiplayer games.

GENie, the information service run by General Electric, is probably the industry leader in on-line games. Not to be caught napping, it also has some big plans. The enormously popular multiplayer air-combat simulation, *Air Warrior*, will soon be distributed on disk in retail stores. The MS-DOS version should be out of testing soon, and versions for Amiga, Atari ST, and Macintosh computers should follow.

A new multiplayer strategy game called

*Tomorrow the World* will allow people to play via electronic mail. A rerelease should be on GENie soon also. The premise is that the United States never entered WWII and that it took a very casual attitude toward expansion by Germany and Japan. So casual, in fact, that when the game begins in 1948, the United States is split down the middle, half owned by Germany and half owned by Japan. Currently a two-player game, GENie hopes to expand it for six participants.

GENie's recently released *Galaxy I: Expanding Empires* is a space colonization and conquest game, heavy on strategy and diplomacy. As your empire expands, you cannot defend it without allies. But beware: The forecast calls for a 90 percent chance of back stabbing and double-dealing. Also in the works is *Forgotten Empires*, a new graphic role-playing game. Just entering early development by a well-known game designer are a multiplayer naval-warfare game in which you must protect or destroy a convoy, and a search-and-destroy, space mercenary role-playing game. Add to this *Fantasy Baseball* and *MicroSports Football* and it's obvious that GENie wants to stay number one. GENie's multiplayer on-line games can open up a whole new world of computer gaming. However, they can be addicting and expensive, especially since you pay by the minute.

**DATA EAST KICKS OFF A NEW LINE OF SPORTS GAMES.** Generally known for its coin-op games and arcade and computer games based on hot movies such as *Platoon*, *Robocop*, and *Batman*, Data East recently announced a new direction with *MVP Sports*, which should eventually cover the gamut of sports simulations. Data East has signed an exclusive agreement with ABC Sports to use its licensed sports properties. The first game to hit the shelves will be *ABC Monday Night Football* (planned for C 64, 512K IBM PC, PS/2; \$50). Its release will coincide with the twentieth anniversary of ABC's Monday night broadcasts. Slated for release next year is an auto-racing game endorsed by Al Unser, Jr. Also in the works for early next year are a baseball and a basketball game; expect both to carry a major endorsement. All the games in the MVP line will have a similar user interface, making new releases easy to learn. With rights to the ABC line, could a *Wide World of Sports* series be far behind?

Back on more familiar ground, Data East



Monday Night Football is brought to you by Data East.

will continue to bring hot coin-op titles to the personal computer. Already released or coming soon are *Vigilante* (512K Amiga, 512K Atari ST, C 64, 512K IBM PC, PS/2; \$30-\$45), *Super Hang-On* (512K Atari ST, C 64, 512K IBM PC, PS/2, 1MB Macintosh; \$30-\$40), *Karnov* (C 64, 512K IBM PC, PS/2, 1MB Macintosh; \$30-\$40), *Heavy Barrel* (128K Apple, C 64, 512K IBM PC, PS/2; \$30-\$40), and *Bad Dudes* (512K Amiga, 128K Apple, 512K Atari). All are extremely popular in the arcades.

**EPYX LEADS WITH THE CLASSICS.** Heading up the Epyx new fall line are two classic names in gaming. Remember how *Defender* used to root quarters out of your pocket like a truffle-hunting hog? Well, Epyx has taken the best features from the original and revved it up with today's hot graphics to make *Revenge of Defender* (512K Amiga, C 64, 512K IBM PC, PS/2; \$13.50-\$15) a real winner. Seven new missions will take you from jungle-covered planets with blood-sucking plants to the energy-waste dumping ground of the galaxy, Gorbaxa.



The Lizard Men threaten your travel in Pool of Radiance.



*California Games II* (512K IBM PC, PS/2; \$22.50) is a super sequel to the original *California Games* and features four new events—bodyboarding, jet skiing, skateboarding, and snowboarding. All bring the totally amped California sports scene to a computer screen near you.

*World Karate Championship* (128K Apple II, 512K Atari ST, C 64, 512K IBM PC, PS/2; \$9) is back. An injunction prohibiting the distribution of the award-winning game was finally lifted when the court found no infringement by Epyx on a similar product by Data East.

A series of new games rounds out the fall lineup. *Devon Aire in the Hidden Diamond Caper* (512K Amiga, 128K Apple II, 512K Atari ST, C 64, 512K IBM PC, PS/2; \$13–\$22) is a 3-D graphic adventure that requires you to lift, push, pull, and stack everything in Crutchfield Manor to find the hidden gems. Pile up furniture to check high spots or try to check behind a roaring fire without getting fried. *Purple Saturn Day* (512K Amiga, 128K Apple II, C 64, 512K IBM PC, PS/2; \$13.50–\$18) brings together contestants from all over the galaxy for a series of space contests—sort of a *California Games* in 2001. See if you can catch the eye of the Queen of Saturn herself!

## GAME HINTS

**Advanced Dungeons and Dragons: The Pool of Radiance** (Strategic Simulations). You and your party of up to eight characters must identify and destroy the evil forces that wreak havoc in the city of Phlan.



- ★ Be sure to check the walls for secret doors.
- ★ Don't kill the Gypsy or you will enrage the monsters in the slums.
- ★ Translate the scroll of the dead elf; it will make your stay at the Keep much easier.
- ★ Always tell the truth.
- ★ Watch out for a hardening experience at Mendor's Library.
- ★ Some dragons are very wise and helpful.
- ★ Being helpful to others in the wilderness may ward off some attackers.

★ If you miss the password, you will have to start over.

—KEVIN SCHALLER  
Loveland, Colorado

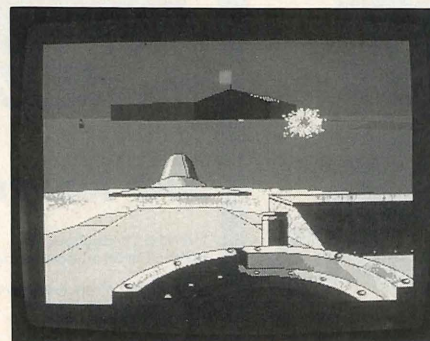
**BattleTech: The Crescent Hawk's Inception** (Infocom). As Jason Youngblood, a thirty-first-century cadet warrior, you must fight to preserve your planet, honor, and life.



- ★ The Locust is the fastest Mech.
- ★ Wasps have hands.
- ★ Enter the Inaugural Hall more than once, and you will meet someone helpful.
- ★ Dr. Tellhim's hut will not appear until you view your father's holodisk.
- ★ Excellent Tech and Medical skills are needed to get by the inventor's quiz.
- ★ To salvage enemy Mechs, you will need a pilot on the ground as well as a good Tech.
- ★ Make a map of the cache.
- ★ Engines and gyros cannot be fixed.
- ★ Raise your Tech's level to excellent; it will pay for itself.
- ★ The white code is in the map room.
- ★ If you are outnumbered, run away.
- ★ The Citadel is the only place to get weapons training.

—PETER HSIEH  
Cerritos, California

**Abrams Battle Tank** (Electronic Arts). As the commander of an M1A1 Abrams Battle-tank, you must destroy Russian tanks advancing into West Germany.



- ★ ACRV-2 command vehicles indicate that you are close to a Soviet base.
- ★ When in a scenario where constructions must be destroyed, take a few extra Heat shells.
- ★ In the convoy scenario, keep the gover-

nor off in order to protect the trucks more efficiently.

★ Save AX rounds for use against helicopters.

★ Use Heat rounds against buildings and infantry. Use Sabots against vehicles.

★ Watch your tank icon to make sure that you do not expose your flank or your rear to the enemy.

—JOHN GOUNIS  
Chicago, Illinois

**Falcon** (Spectrum HoloByte). Pilot your F-16 through a variety of combat missions in this sophisticated simulation.



- ★ To avoid damaging your plane in the upper ranks, take your time when taking off or landing.
- ★ To make the game move faster, turn off the landscape while traveling long distances or dogfighting.
- ★ Do not rely too much on your afterburners. They use a lot of fuel.
- ★ If you stall, go into a shallow dive to reignite your engines.
- ★ Try not to engage enemy planes until you have completed your mission.
- ★ Try to stay between 20,000 and 40,000 feet while dogfighting.
- ★ Enemy planes may not appear on radar in higher ranks, so watch your tail.
- ★ Try to eliminate SAM sights before making bombing runs.

—TRACY LUCAS  
Staunton, Virginia

## SEND US YOUR HINTS—AND WIN A FREE GAME!

Don't miss the opportunity to share your original game hints and tips with other readers. Submit entries to Entertainment Editor, HOME-OFFICE COMPUTING, 730 Broadway, New York, NY 10003. Include your name, address, telephone number, a short description of the game, and the brand and model of the computer you own. If your tips are selected for publication, we'll award you a new game for your computer. We reserve the right to edit submissions for accuracy, clarity, and length. Unfortunately, we cannot acknowledge each submission. ■



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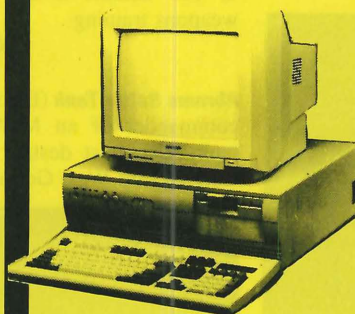


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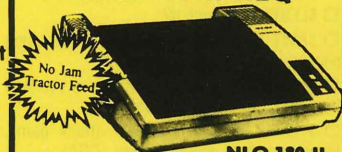
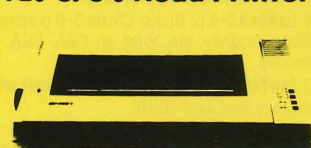
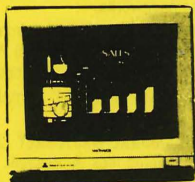
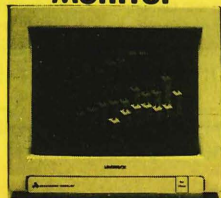
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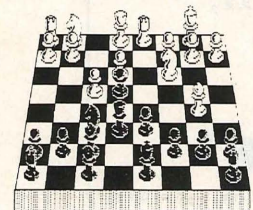


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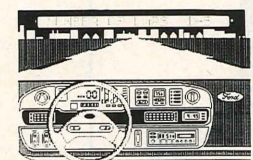
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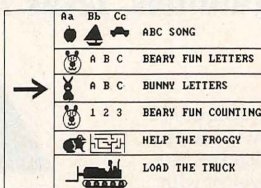
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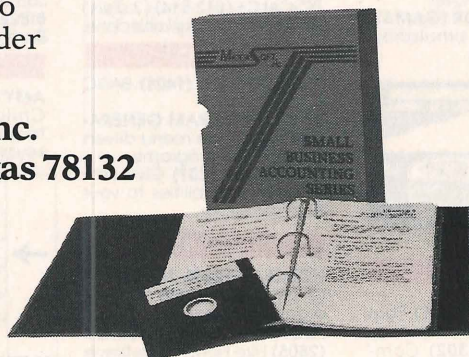
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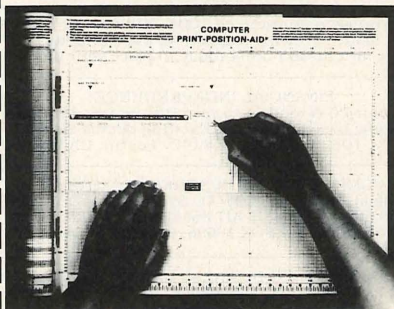
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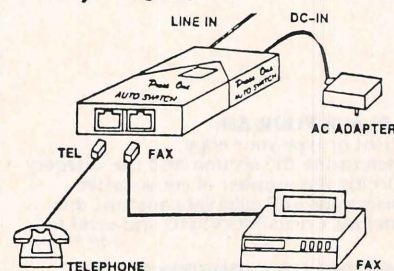
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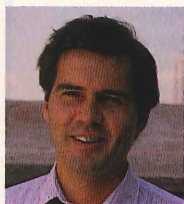
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# In a Cellular State of Mind

BY NICK SULLIVAN



I've been working on the railroad. But it's easier than it used to be.

I'm riding the Amtrak Minute Man from New York to Providence. It switches from an electric to a diesel engine in New Haven. But I have no such power concerns; I just sit here with my battery-operated portable computer, enjoying old-fashioned rail travel along with my modern work tool.

There's nothing new about commuters and business travelers working in planes and trains. But working in transit with the same tools (or reasonable facsimiles) you're accustomed to in the office certainly is new—even though most travelers already take it for granted.

Ten years ago, I wouldn't have been able to walk onto a train with a briefcase and pull out a typewriter. Five years ago, I could walk onto a train and pull out a computer, but people stared. Today a briefcase computer attracts no attention. After all, the little girl across the aisle is listening to a Sony Walkman. That's just as amazing—and attracts just as little attention.

The portable computer is a liberating tool that lets us leave our desks without walking out on our work. Of course, being human, I can still find things to complain about. I'd like to be on a high-speed train, like the European ones I've been reading about. The train is comfortable, but slow.

And I'd like a portable computer with disk drives. I'm using the old-fashioned Tandy Model 100, which automatically stores data when you turn it off but has no removable media. To transfer data to my desktop computer, I use a null-modem cable (a serial cable with a few lines switched) and communications software.

But these drawbacks don't ruin my ride or affect my work. The train, which offers more legroom and freedom to move around than a plane does (I just returned from the snack car with gourmet popcorn), is conducive to work. And I've had the computer a long time and am quite attached to it. Unlike most portables, it's light and fits in my briefcase along with its power supply. I



**Today a briefcase computer attracts no attention. After all, the little girl across the train aisle is listening to a Sony Walkman. That's just as amazing.**

want disk drives, but I'm not sure I'd want to carry them.

As it happens, I've just rediscovered my portable after several years of neglect, which is probably why I'm reacting to it with childlike amazement. When I bought it in 1983, I used it a lot, primarily to learn telecommunications. The Model 100 has a built-in modem, and I practiced sending files to and from home, office, and hotels.

After that initial surge, I used it less and less, usually to write on transcontinental airplane trips. I used the portable less partly because the newer portables from NEC, Toshiba, and Zenith were more enticing (see review of the NEC UltraLite in this issue); and partly because I started using business travel as a time to get away from the computer and work with pencil and paper.

Since the Model 100 was gathering dust,

I recently thought about selling it to finance some new equipment. But as I made sale preparations, I realized it was worth much more than it would ever fetch. How many computers fit in a briefcase? How many computers have built-in software and a built-in modem? How many computers have such a perfect keyboard? How could I sell Old Faithful? Once again, I pack the Model 100 when I travel.

Besides, I was just beginning to experience the joys of a portable office at home, thanks to my Panasonic portable two-line phone. When I want to get away from my desk, the phone turns a porch, picnic table, or couch into a functional office. I take the phone with me when I go across the street to check the mailbox. And if I answer the phone in a room with noisy kids, I can walk to a quieter spot without interrupting the phone call.

No single factor makes the portable phone a must, but it's another very liberating tool, and it makes the traditional telephone cord seem like a leash. I've had such a good experience with the portable that I eye cellular car phones with envy. Time spent driving to and from the train and plane, doing errands, or dropping off and picking up kids is truly down time. In theory, a car phone would make that time useful.

Of course, it might make the day more hectic. An independent television producer I know in California is so worried about missing phone calls he takes a cellular phone with him when he goes for a bike ride. And then he complains about getting too many phone calls! He explains that not all come from the right people—that he really needs a secretary to screen calls for him.

I think he should relax and take a bike ride. Just because technology enables us to do things doesn't mean we have to do them. Doctors carry beepers, but most of the rest of us don't have to be in touch every minute of the day. Still, a car phone would help relieve the tedium of driving. I could hand out the number selectively or not at all and just make outgoing calls.

But I'm not going to buy a car phone because I don't spend enough time in the car to make it cost-effective. To satisfy my cellular craving, I'll probably get another portable for the house. I spend much more time in the house than in the car anyway. Speaking of time, this train ride is getting long. I think I'll power down and take a nap. It's nice to know that no one can reach me here by phone. ■

NICK SULLIVAN is a senior editor who telecommutes to the New York office from his home in Massachusetts. He can be reached on MCI Mail (ID: NSULLIVAN) or on CompuServe (ID: 76703,744).





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**“Since I began using a computer filter a few months ago, my eyeglass prescription has increased three times.”**

**Tom Judd, president and founder of Curtis Manufacturing, on why you should use a glare filter.**

“Headaches, blurry vision, scratchy and burning eyes, overall visual fatigue ... These are the most common manifestations of monitor glare.

The solution? Get a glare filter.

The Curtis Anti Glare Glass Filter has been specifically designed to reduce monitor glare and improve on-screen contrast. Using one reduces headaches, visual fatigue, and even neck and back strain.

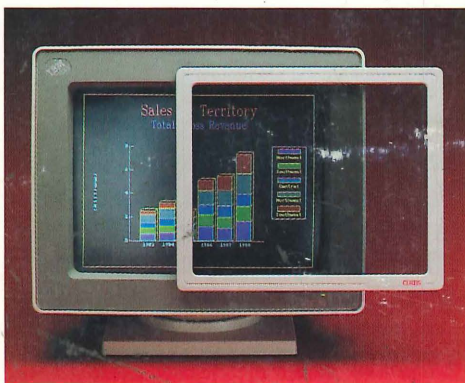
When I asked our design team to develop the highest quality, best value glare filter on the market, I learned that certain filter elements worked better than others.”

**Glass vs. plastic:**

“When I tested the plastic models, they scratched so easily after one cleaning, I could see for myself that glass was significantly better.”

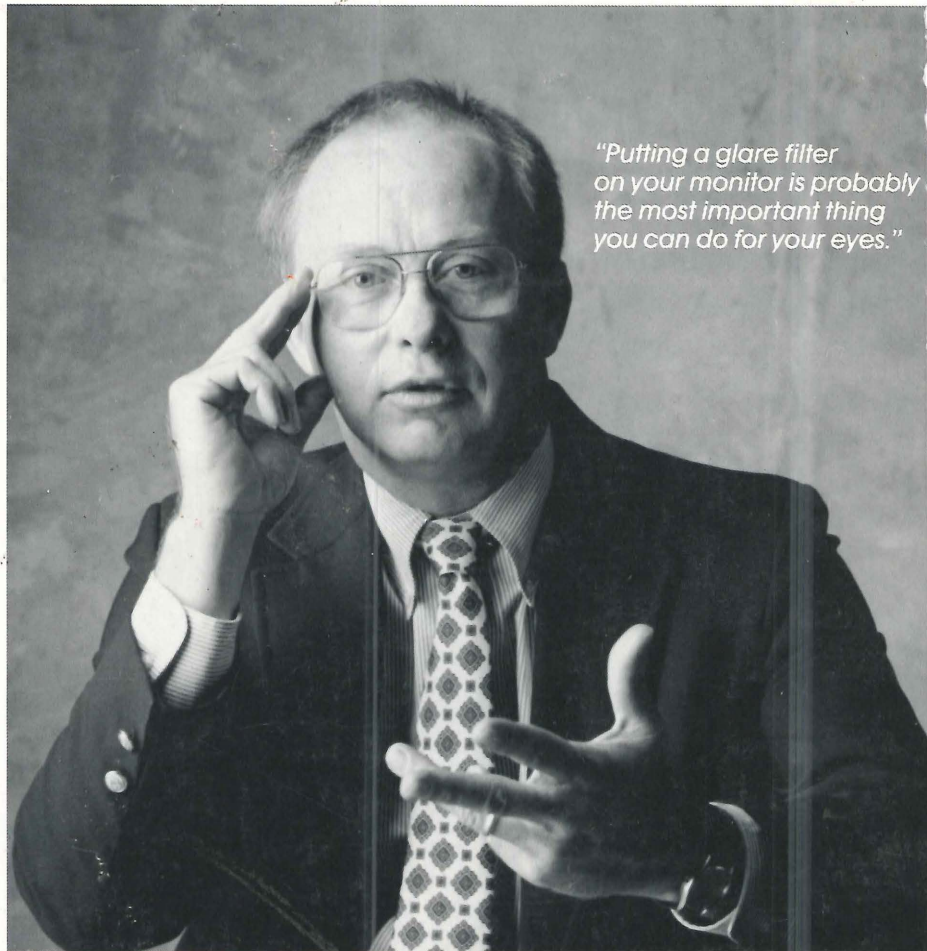
**Glass vs. mesh:**

“I have a high resolution color monitor. When I put a mesh filter on it, the monitor was harder to read, not easier. The mesh made the characters appear fuzzy.”



**Two-sided optical coating vs. one:**

“I learned that monitor glare would hit both sides of the filter. A glass filter with optical coating on both sides visibly reduces glare better.”



*“Putting a glare filter on your monitor is probably the most important thing you can do for your eyes.”*

**Cleaning the filter:**

“All glare filters need to be cleaned occasionally. I asked, ‘How?’ Our design team answered by including a bottle of specially formulated, non-streaking cleaner and a lint-free cloth in every package. No other manufacturer does this.”

**Reversible frame:**

“I asked for a durable, cosmetically attractive and ergonomically designed frame. Our designers delivered with a unique high-impact injection molded plastic frame which is black on one side—for those who want the utmost ergonomic design—and gray on the other side—for those who want to match the aesthetics of their monitor.”

**The results:**

“The technical specifications of our filters are impressive: glare reduced by 95%, contrast improved 20 times. The design team told me how successful our product was, but I didn’t realize it

until I put one on my computer. What a difference! In fact, the Curtis Anti-Glare Glass Filter worked so well, I had one added to every computer at our corporate headquarters.”

If you’d like to know more about the Curtis Anti-Glare Glass Filter and other Curtis products that make life in front of a computer easier and less stressful, write or call for our free brochure: *Tips to Computing More Comfortably*, Curtis Manufacturing Company, Inc., 30 Fitzgerald Drive, Jaffrey, NH 03452. (603) 532-4123 ext. 89

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